ROUND FOURTEEN GROUNDWATER MONITORING REPORT 2251 ARMOUR ROAD SITE CONDUCTED OCTOBER 2013

RESPONDENT
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4700 Daybreak Parkway
South Jordan, UT 84095

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EXECUTIVE SUMMARY

This report presents the results of the fourteenth round of groundwater monitoring at the Armour Road Site. The monitoring was performed from November 11 through November 17, 2014. Resampling of one well, GWM-02S, was done December 22 and 23, 2014. During this round a concurrent study was done to determine if analytical method 6010, used to determine the arsenic concentrations, could report higher than actual arsenic concentrations due to analytical interference with other constituents in the groundwater.

The findings of the fourteenth round of groundwater monitoring are provided below.

E.1 Background

The well field currently consists of twenty seven (27) monitoring wells. The wells are screened in zones. The zones are as follows:

- The shallow zone at a depth of about 20 to 30 feet;
- The deep zone which is at a depth of about 40 to 50 feet; and
- The bedrock interface which is at a depth of approximately 100 to 120 feet.

E.2 Results - Water Levels

The water levels in November 2014 were the same as those measured in July 2014 (approximately 720 msl). Groundwater flow was toward the southeast, toward the Missouri River. Gradients are on the order of 0.0015 to 0.00072 feet per foot. The vertical gradient in wells near the west Norfolk Southern storm water basin was downward, confirming the contribution of recharge from the basin. Elsewhere on the Site there were no notable vertical gradients.

E.3 Results - Water Quality

E.3.1 Shallow Zone

Arsenic concentrations on the Armour Road Property have decreased approximately 50% since 2013 (101,000 $\mu g/L$ down to 49,900 $\mu g/L$). Directly down gradient of the Property arsenic concentrations have been slowly decreasing over the past four rounds of monitoring. Arsenic concentrations further down gradient of the Property, in the NS yard and in the light industrial area, are low ranging from not detect (ND) to about 124 $\mu g/L$.

E.3.2 Deep Zone

The arsenic concentrations in the deep interval on the Property have remained stable over the past year. Directly down gradient of the Property arsenic concentrations have continued a downward trend. Further down gradient, under the NS yard, the arsenic concentrations continued a cyclical increasing/decreasing trend in GWM-08D. The arsenic concentrations in all other wells under and south of the NS yard are generally stable.

E.3.3 Bedrock Zone

On and directly down gradient of the Property arsenic concentrations are low and stable. Further down gradient, in the NS yard, a decreasing trend was noted at GWM-08B and a cyclical increasing/decreasing trend is noted at GWM-14B.

1.0 INTRODUCTION

This report presents the results of the fourteenth round of groundwater monitoring at the Armour Road Site. The monitoring was performed from November 11 through November 17, 2014. Resampling of GWM-02S was done December 22 and 23, 2014. During this round of monitoring a concurrent study was done to determine if analytical method 6010 used to determine the arsenic concentrations could report higher than actual arsenic concentrations due to analytical interference with other constituents in the groundwater.

The findings of the fourteenth round of RI groundwater monitoring at the Armour Road Site (Site) are provided below.

2.0 ROUND FOURTEEN MONITORING

The location of the Site is shown on Figure 1. The monitoring is being conducted for the Remedial Investigation (RI) under the Consent Decree - Civil Action Number 4:10-cv-00057-SOW (CD). The data provided herein documents the work done during the current monitoring round, the data from the round, water quality trends over the previous year, and exceptions from the planned work. The data table in this monitoring report provides the results of all water quality data gathered since the mid-1990s.

2.1 Overview of Monitoring Network

The groundwater monitoring well network is shown on Figure 2. The current monitoring network consists of twenty seven (27) wells. The screened intervals of the wells in the monitoring network are shown on Figure 3. The wells have a designation letter of S, D, and B.

Wells with an S designation are referred to as shallow wells. Shallow wells are screened at the water table. The typical depth of a shallow well is 30 feet below the ground surface. The top of the screen was placed just below the bottom of the clay formation found across the area from the ground surface to a depth of approximately 20 feet.

Wells with a **D** designation are referred to as Deep wells. These wells are screened approximately 10 feet below the shallow well placing the screen interval at a typical depth of 40 to 50 feet below the ground surface.

Wells with a **B** designation are referred to as bedrock interface wells. Bedrock interface wells are screened at the bottom of the alluvial deposits; just above bedrock. Bedrock was found approximately 99 to 124 feet below the ground surface.

2.2 Overview of Monitoring Plan and Procedures

The monitoring plan and procedures are designed to provide comparable results from each sampling event. The following activities are conducted during each Monitoring Event:

- Inspection and recording of the general condition of each MW.
- Collection of water level measurements at all MWs during the first day of the monitoring event.
- At select wells, purging groundwater from each well using the low-flow method. Most wells were sampled using hydrasleeves which require no purging.
- Collection of groundwater samples from twenty three (23) of the wells. Samples are not collected for analysis from wells GWM-08S, GW-09S, GW-11S, and MW-11. These four wells have shown no detectable arsenic over their monitoring history.
- Analytical testing of the collected samples according to the parameter schedule provided on Table 1.
- Collection of field blanks, equipment blanks, duplicate groundwater samples for quality assurance/quality control (QA/QC) purposes and analytical testing of the QA/QC samples for dissolved arsenic.

- Reporting of the monitoring results.
- Calculating trends in arsenic concentrations. Arsenic trend graphs are provided in Appendix A.

The monitoring plan was expanded this round to determine if the analytical method used to determine the arsenic concentrations (USEPA Method 6010) could report higher than actual arsenic concentrations due to analytical interference with other constituents in the groundwater. As a one-time modification to the scheduled monitoring round, arsenic analyses were run on selected wells using method 7062 in addition to the scoped 6010 method. In some circumstances the arsenic results from a 6010 analysis can experience interferences by rare earth elements. The possibility of interference is of interest. Adding method 7062 analysis to our regular test protocol for selected wells was done to establish if there is any analytical interference. The following wells were included in the expanded analytical program:

Wells	Rationale
GWM-04 S and D	Down gradient fringe with low arsenic concentrations
GWM-05 S and D	Down gradient fringe with low arsenic concentrations
GWM-13 D	Down gradient fringe with low arsenic concentrations
GWM-06 S	Down gradient fringe with low arsenic concentrations
GWM-02 B	Bedrock interface interval with low arsenic concentrations
GWM-08 B	Bedrock interface interval with high arsenic concentrations

2.2.1 Well Inspection and Water Levels

At the beginning of each monitoring event, every MW is inspected to determine its overall condition. Any maintenance issues regarding the well condition are noted and recorded

Static water levels are measured in each MW using an electronic water level indicator capable of measuring the water level to within 0.01 feet. The water level instrument is decontaminated with de-ionized water between each measurement. Water levels are provided on Table 2. Historical water level measurements are provided in Appendix B; the monitoring field records are provided in Appendix C.

2.2.2 Sample Collection

Most groundwater monitoring wells were sampled using Hydrasleeves. Due to the expanded analytical program large water volumes were needed at a few wells to support the required analyses and QA/QC sampling. At these few wells the samples were collected using the low flow method. Field sheets documenting the sampling methods are provided in Appendix C.

All groundwater samples collected from dissolved arsenic analysis were field filtered using a 0.45-micron filter; samples for total arsenic were not filtered. The groundwater samples were chemically and thermally preserved as specified by the analytical methods and were placed in a cooler. Sample numbers were recorded on a chain-of-custody and are delivered to the laboratory for analytical testing.

Purge water generated during each monitoring event is disposed off-Site as either a hazardous or non-hazardous waste, depending upon the concentration of arsenic in the purge water. How purge water was managed during each monitoring event is documented in Section 3.4.

2.2.3 QA/QC Samples

QA/QC samples are collected during each Monitoring Event. QA/QC includes field blanks of deionized water, equipment blanks collected from the pump before it is used to purge and sample a well, and duplicate groundwater samples collected from the monitoring wells. The QA/QC samples are handled and submitted to the laboratory for analysis using the same procedures specified for the groundwater samples.

The laboratory QA/QC includes Method Blanks, Laboratory Control Spikes (LCS) Matrix Spikes (MS), and MS duplicates.

2.2.4 Analytical Testing

Each groundwater sample was analyzed for total and dissolved arsenic (See Table 1). The laboratory analytical data reports are provided in Appendix D.

3.0 GROUNDWATER MONITORING RESULTS AND INTERPRETATION

This section presents the results of the monitoring event conducted from November 11 through November 17, 2014, and the resampling of GWM 02S done December 22 and 23, 2014.

3.1 Current Field Observations

All wells are in good condition.

3.2 Current Water Level Measurements

Water levels were measured on November 11, 2014. The measurements and a conversion of the measurements to water elevations are provided on Table 2.

Groundwater elevations for the current round of monitoring are plotted and contoured on Figures 4, 5, and 6. Historical water level measurements for each MW and the annual trends in water levels are provided in Appendix B. The water levels in November 2014 were approximately 1.7 feet higher than those measured in June 2013.

The groundwater elevations and contours shown on Figure 4, 5 and 6 reveal that, during the November 2014 sampling event, groundwater flow in the shallow, deep, and bedrock interface intervals was toward the southeast, toward the Missouri River. The groundwater flow direction is generally consistent with periods of lower groundwater levels.

The typical groundwater flow gradient is very flat measuring approximately 0.0005 feet per foot. In November 2014 the gradient in the shallow interval was flat near the property measuring 0.0007. The gradient steepened to 0.0015 to the south of the rail yard. In the deep zone the gradient was on the order of 0.0005. The gradient in the bedrock interval was too flat to measure.

Vertical gradients are measured at the following monitoring well clusters:

- GWM-02 (S, D, B)
- GWM-03 (S, D, B)
- GWM-04 (S, D)
- GWM-05 (S, D)
- GWM-08 (S, D, B)
- GWM-09 (S, D, B)
- GWM-11 (S, D, B
- GWM-13 (S, D)

Examination of the water levels in these wells (See Table 2) reveals a downward vertical gradient in the GWM-09 (0.19 feet). A more pronounced downward gradient is measured in GWM-11 series (0.37 feet). These wells are located near the Norfolk Southern storm water basins. These downward gradients reveal the contribution of recharge from the basins. Elsewhere on the Site there were no notable vertical gradients.

3.3 Water Quality

An assessment of the water quality data generated during this round of sampling is provided below.

3.3.1 Quality Control Results and Interpretation

Sampling and analytical quality control consisted of the following analyses:

- Equipment blanks,
- Duplicate groundwater samples,
- Laboratory blanks,
- Laboratory Control Spikes and duplicates, and
- Matrix spike and matrix spike duplicate analyses.

With a minor exception all laboratory quality control data are with prescribed parameters. In two laboratory analytical batches matrix interference were noted. In these same batches the laboratory control spikes were within specifications indicating that the laboratory processes were within the project specifications. Details of the quality control results are provided on Tables 3, 4, and 5.

3.3.2 Groundwater Analytical Results and Interpretation

This subsection presents the results and interpretation of the analyses performed on groundwater samples.

Exceptions Encountered

An unexpected low arsenic concentration was reported for well GW-02S. This well was resampled on December 22 and 23, 2014 to validate the initial laboratory result. The resampling was done using the low flow and hydrasleeve methods to determine if the sampling method influenced the result. The results for GWM-02S are shown below.

Sampling Method	Date	Total Arsenic	Dissolved Arsenic
Hydrasleeve	11/12/14	4,010 μg/L	3,870 µg/L
Hydrasleeve	12/22/14	25,500 μg/L	20,400 μg/L
Low Flow	12/23/14	43,200 μg/L	49,900 μg/L

The low detection reported in the November analysis was not confirmed. The hydrasleeve method produced a significantly lower result than the low flow method in the resampling analysis. Past sampling studies have shown that the arsenic concentrations in samples are highly

sensitive to any oxygenation of the water before the water is preserved. Given that GMW-02S is a water table well it is possible that installing the hydrasleeve stirred up the water sufficiently to add oxygen to the water and precipitating the arsenic. The November sample was collected 24 hours after inserting the hydraleeve. The December sleeve sample was collected over a month after the sleeve was installed. The higher sleeve result in December compared to the November result may be due to native groundwater flowing through the well over time. The highest result was measured by the low flow sampling and is the result used to assess the data produced during this round of monitoring.

Snapshot of the Current Round of Groundwater Monitoring

Groundwater samples were successfully collected from each monitoring well during the November 2014 monitoring event. The samples were analyzed for arsenic in filtered and unfiltered samples. The results of the arsenic analyses are provided on Table 6. Due to the long length of Table 6 it has been placed at the end of the tables section to ease the review of the other data tables. Laboratory data sheets and the chain of custody records are provided in Appendix D.

Arsenic in Shallow Groundwater

Concentrations: Isoconcentration lines for arsenic in shallow groundwater are shown on Figure 7. The geometry of the plume is very similar to all previous RI monitoring rounds. On the Property the arsenic concentration in GWM-02S declined 50% since June 2014 to 49,900 μ g/L. The arsenic concentration declines rapidly down gradient to 3,720 μ g/L at GWM-03S.

The arsenic concentration at GWM-04S was 27.8 μ g/L. A remnant of arsenic at a concentration above the MCL was found at GWM-05S (91.8 μ g/L). Far down gradient of the Site, the arsenic concentration was below the MCL.

Trends: Data trend graphs are provided in Appendix A. Figure 7 shows trends over the last four monitoring rounds. On the Property, the trend over the past year has been a decline in the arsenic concentrations, dropping from $147,000 \,\mu\text{g/L}$ to $49,900 \,\mu\text{g/L}$.

Directly down gradient of the Property, at GWM-03S, the trend over the four monitoring rounds has been a consistent decline in the arsenic concentration, dropping from $10,500 \,\mu\text{g/L}$ to $3,720 \,\mu\text{g/L}$. Further down gradient, at well cluster GWM-04S, arsenic concentrations remain relatively stable in the mid $20 \,\mu\text{g/L}$ range.

At GWM-05S the arsenic concentration appears to have a slight increasing trend over time. Further down gradient, at GWM-13S and GMW-06 arsenic concentrations are not detected above the reporting limit.

Arsenic - Deep Interval

Concentrations: Arsenic concentrations in the deep monitoring interval are posted on Figure 8 and are shown on Table 6. As with the water table interval, the arsenic concentrations are highest near the Property. The on-Property arsenic concentration in GWM-02D was 8,480 µg/L. Directly down gradient at GWM-03D the concentration was 11,400µg/L. Arsenic concentrations decline down gradient, measuring 4,090 µg/L at GWM-11D, 52.0 µg/L at GWM-09D, and 185 µg/L in GWM-08D located in the center of the Norfolk Southern rail yard.

Further down gradient, at GWM-04D and GWM-05D, the arsenic concentration declines with dissolved arsenic concentrations of 59.5 μ g/L in GWM-04D and 58.1 μ g/L in GWM-05D. At GWM-13D arsenic was detected at 68.4 μ g/L.

Trends: At GWM-02D (on the Property), the arsenic concentration has been relatively stable over the past four monitoring rounds ranging from 9,840 μ g/L to 7,340 μ g/L. Directly down gradient of the Property at GWM-03D arsenic concentrations have shown a general declining trend, dropping from 19,100 μ g/L to 11,400 μ g/L.

Further down gradient, in the Norfolk Southern yard, a slight downward trend in arsenic concentrations is evident in GWM-09D. A pattern of cyclical increasing and decreasing concentrations is evident at GWM-08D. The current round revealed an increase from 147 μ g/L to 185 μ g/L. The cyclical trend in the arsenic concentrations is most likely due to the southerly and downward attenuation of arsenic from under Railroad Avenue.

Further down gradient, at GWM-04D and GWM-05D the arsenic concentrations appear stable ranging from near 50 μ g/L to the mid 60's μ g/L.

Arsenic – Bedrock Interval

Concentrations: Arsenic concentrations at the bedrock monitoring interval are posted on Figure 9 and are shown on Table 6. Arsenic at the bedrock interface interval is centered south of the Property, under the Norfolk Southern railroad property (See Figure 9).

The highest arsenic concentration is in GWM-8 (25,400 μ g/L). Concentrations decline toward the southwest reaching 11,000 μ g/L at GWM-15B and decline to 588 μ g/L to the northeast at GWM-14B. Toward the Property, arsenic concentrations decline to 1,870 μ g/L at GWM-09B, to 184 μ g/L at GWM-11B, and 156 μ g/L under the Property in GWM-02B.

The extent of the arsenic at the bedrock interface to the southwest of GWM-15B and southeast of GWM-08B is not monitored with wells. Hydropunch data collected in December 2010 documented that the arsenic was not detected at the bedrock interface to the southeast of the Norfolk Southern rail yard.

Trends: On the Property, in GWM-02B, arsenic concentrations have shown a gradual decline over the past three monitoring rounds. Down gradient at GWM-03B arsenic concentrations have shown a general increasing trend increasing form 63.1 μ g/L to 213 μ g/L over the four monitoring rounds.

Further down gradient, in GWM-09B and GWM-11B, the arsenic concentrations have shown a generally stable trend. Further down gradient, in GWM-08B arsenic concentrations decreased from $47,100 \,\mu\text{g/L}$ to $25,400 \,\mu\text{g/L}$.

In GWM-14B the arsenic concentrations were generally stable at approximately 1,500 $\mu g/L$ with a significant decline to 588 $\mu g/L$ in the November 2014 round. A pattern of cyclical increasing and decreasing is evident at GWM-15B. The current round revealed an increase from 9,430 $\mu g/L$ to 11,000 $\mu g/L$. The cyclical trend in the arsenic concentrations is most likely due to the southerly and downward attenuation of arsenic from under Railroad Avenue.

Filtered vs. Unfiltered Analyses

Field filtered and unfiltered samples were analyzed for arsenic. The results are provided on Table 6. The data show that total and dissolved arsenic results are generally consistent with historical trends at each monitoring well, indicating consistent turbidity in each well. Total results tended to be higher or essentially equal to the total arsenic concentrations for the majority of the samples. In a few instances the totals were less than the dissolved results. The consistent finding suggests that the arsenic is predominantly in the dissolved phase.

3.4 Comparative Study of Methods 6010 and 7062

A comparative assessment of the 6010 and 7062 data is provided on Table 7. The data produced by the two methods are generally comparable. Only wells GWM-05S and GWM-13D showed a significantly lower arsenic concentrations when measured by method 7062. The total arsenic concentration was lower in the 7062 analysis for GWM-06S. This method 7062 may provide generally lower arsenic concentrations in some wells the lower results do not change the use or interpretations based on the method 6010 data. Using a consistent analytical method is most appropriate for long term assessment of data.

3.5 Investigation-Derived Wastes

Approximately 30 gallons of purge water was produced during the November 2014 monitoring round. The water was put in a tank (see Table 8). The water will be characterized for disposal once the tank is full following subsequent monitoring rounds.

3.6 Deviations from the Work Plan

No deviations were encountered.

4.0 CONCLUSIONS AND RECOMMENDATIONS

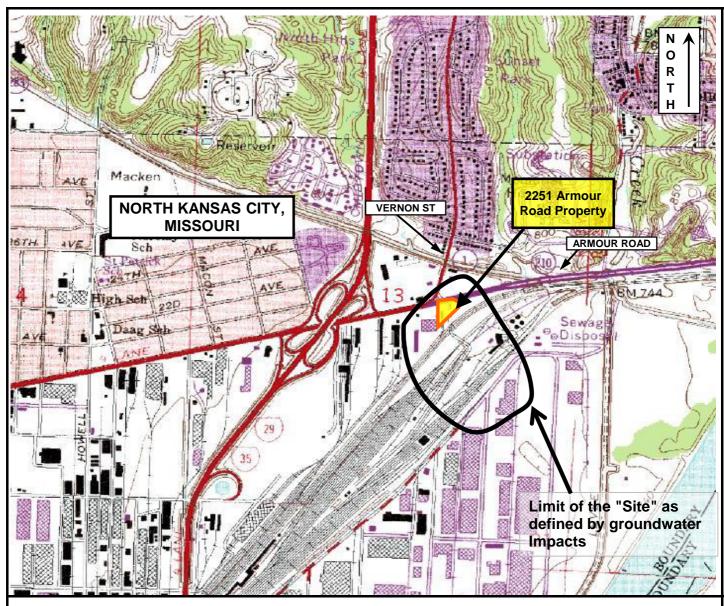
The conclusions from the twelve rounds of RI/FS monitoring are as follows:

- 1. The monitoring well network is effective at defining the general three dimensional groundwater quality in the Shallow, Deep, and Bedrock monitoring intervals of the RI/FS study area.
- 2. A marked improvement in groundwater quality was noted at GWM-02S. The improvement was most likely due to generally low groundwater levels.
- 3. Cyclical trends in some wells reflect arsenic slugs attenuating through the aquifer.
- 4. Method 6010 is sufficient to reflect arsenic concentrations in groundwater.
- 5. Using sleeves in water table wells may skew results lower due to oxidation of the water in the well.

4.1 Recommendations

- 1. Continue annual monitoring.
- 2. Continue using Method 6010.
- 3. Sleeves should only be used in water table wells if the water is allowed to stabilize over a period of six months between insertion of the sleeve and removal.

FIGURES



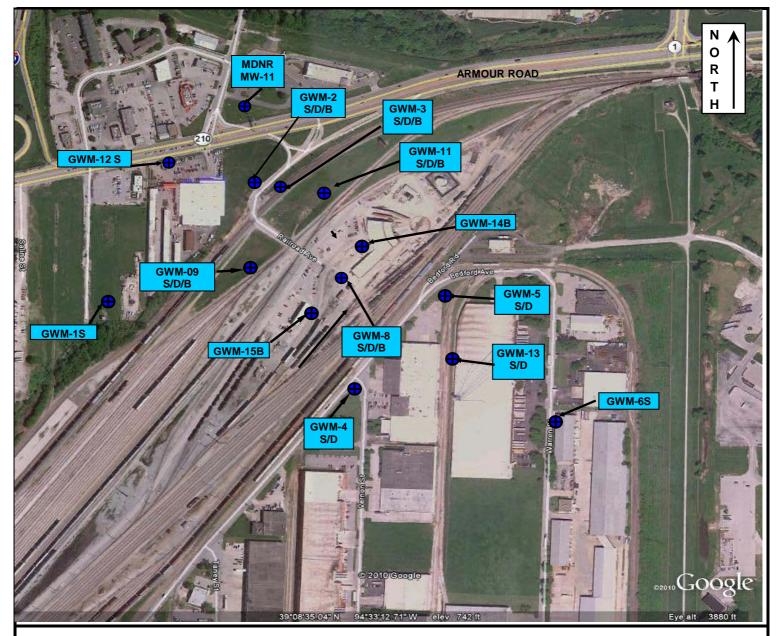
Topographic Map derived from the Terraserver USA internet website.



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FIGURE 1-1 GENERAL SITE LOCATION 2251 ARMOUR ROAD SITE

DATE: 3/20/2012	JOB NUMBER: 09-908.A
DRAWN BY: RVO	SCALE: 1 inch = approximately 1,300 feet
CHECKED BY: GP	FIGURE NO: 1
FILE NO: 09-908.A-Fig	SHEET 1 OF 1



Aerial Photograph derived from Google Earth

LEGEND



MONITORING WELLS



WELL CLUSTER ABANDONED MAY 2012

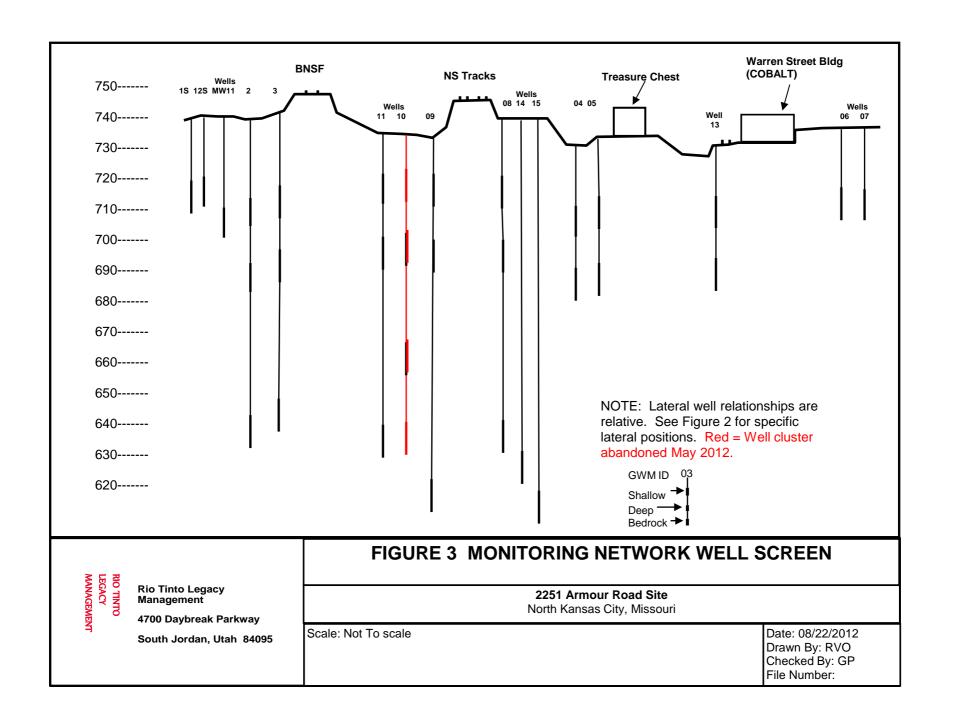
S= Shallow water table well
D= Deep Well (typically 10 ft below S)
DD'= Well Depth Approximately 70Ft.
B= Bedrock/alluvium interface

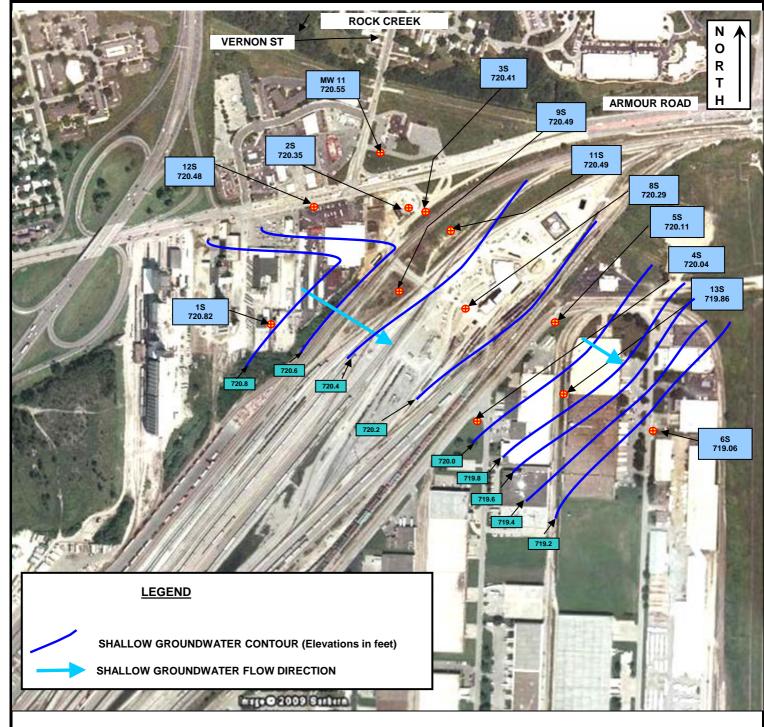
Figure 2: RI/FS GROUNDWATER MONITORING LOCATIONS

F P

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DATE:	12/16/2013	JOB NUMBER:
DRAWN B	Y: RVO	SCALE: 1 inch = approximately 540 feet
CHECKED	BY: GP	FIGURE NO:
FILE NO:		SHEET 1 OF 1





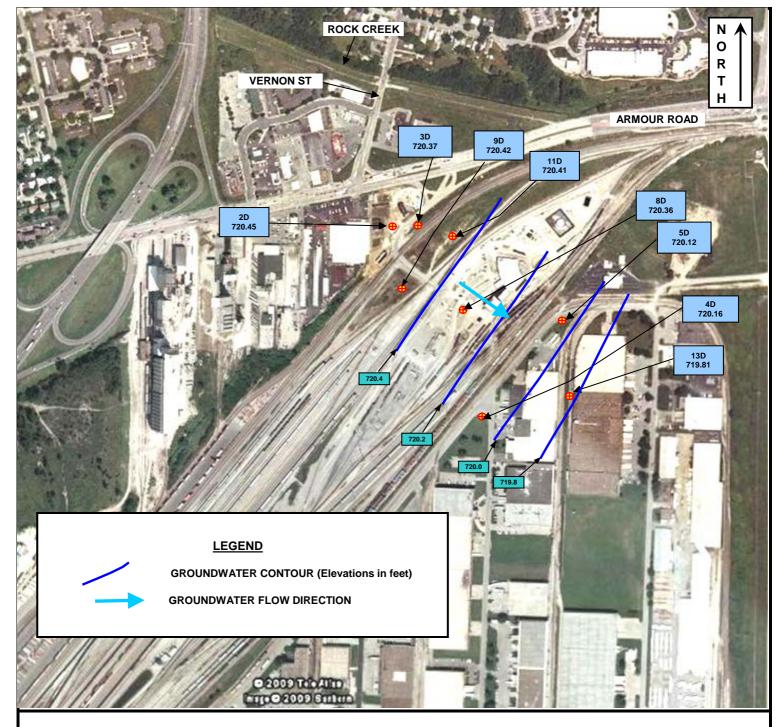
Aerial Photograph derived from Google Earth

LEGACY MANAGEMEN

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FIGURE 4: GROUNDWATER CONTOURS WATER TABLE - NOVEMBER 11, 2014

DATE: 11/26/2014	JOB NUMBER:
DRAWN BY: RVO	SCALE: 1 inch = approximately 575 feet
CHECKED BY: GP	FIGURE NO:
FILE NO:	SHEET 1 OF 1

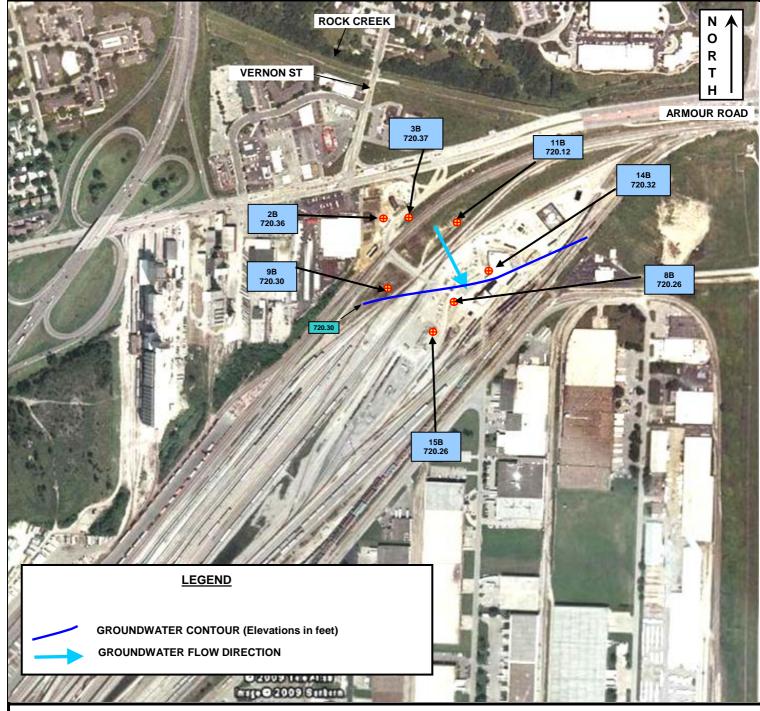


Aerial Photograph derived from Google Earth FIGURE 5: DEEP INTERVAL GROUNDWATER **CONTOURS NOVEMBER 11, 2014**

2251 ARMOUR ROAD NORTH KANSAS CITY, MISSOURI

11/26/2014 DATE: JOB NUMBER: DRAWN BY: RVO SCALE: 1 inch = approximately 575 feet CHECKED BY: GP FIGURE NO: FILE NO: SHEET 1 OF 1

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Aerial Photograph derived from Google Earth

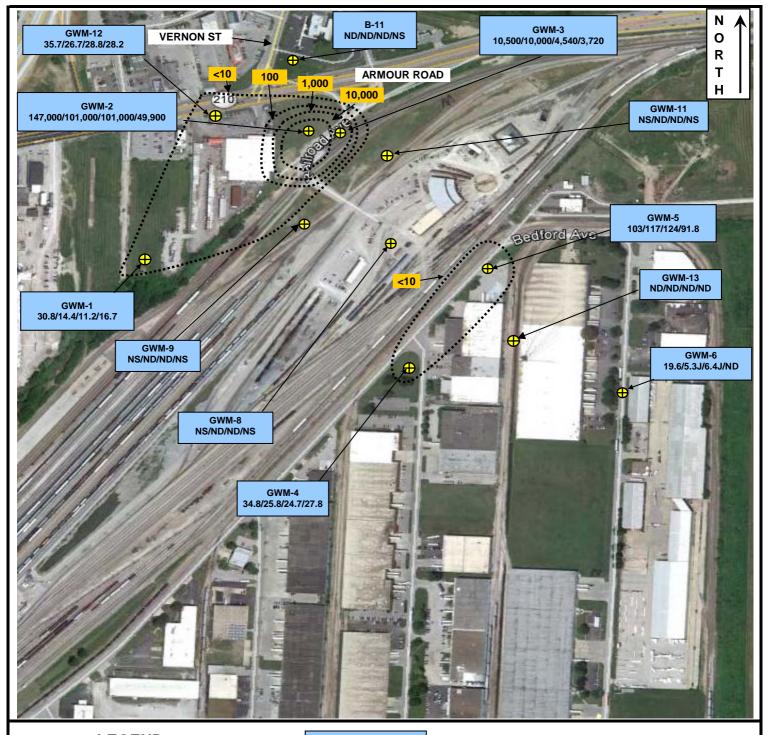
LEGACY MANAGEMEN

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FIGURE 6: BEDROCK INTERFACE GROUNDWATER CONTOURS NOVEMBER 11, 2014 2251 ARMOUR ROAD SITE

NORTH KANSAS CITY, MISSOURI

DATE: 11/26/2014	JOB NUMBER:
DRAWN BY: RVO	SCALE: 1 inch = approximately 575 feet
CHECKED BY: GP	FIGURE NO:
FILE NO:	SHEET 1 OF 1



LEGEND

ARSENIC CONCENTRATION ug/L 100

GWM-1 30.8/14.4/11.2/16.7

January/July/October 2013/November 2014 Arsenic Concentration ug/I

J: value estimated less than reporting limit

WATER TABLE ARSENIC CONTOUR

FIGURE 7: ARSENIC CONCENTRATIONS WATER TABLE NOVEMBER 2014

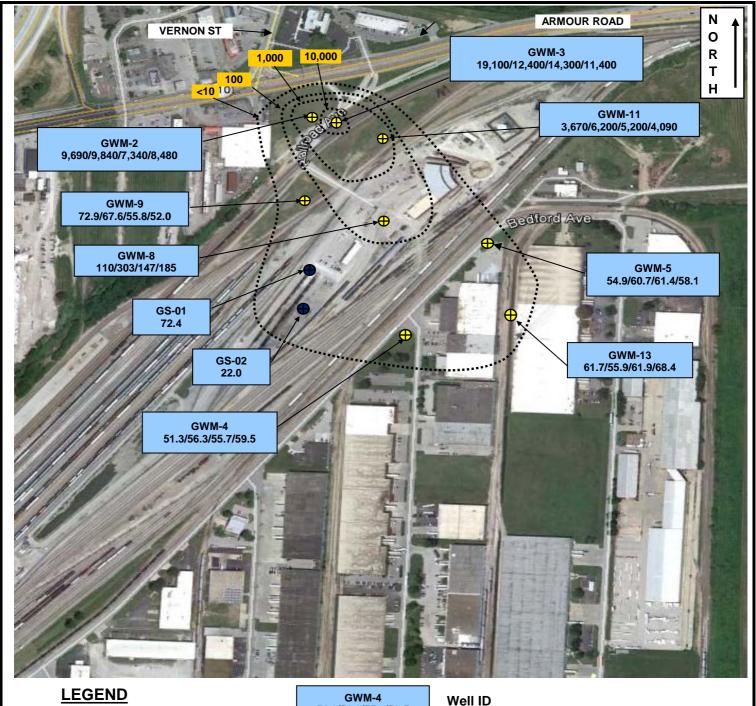
2251 ARMOUR ROAD SITE

NORTH KANSAS CITY, MISSOURI

	DATE DRAWN:	1/17/2015	JOB NUMBER:	
	DRAWN BY: RVO		SCALE: 1 inch = approximately 575 feet	
	CHECKED BY: GP		FIGURE NO:	
	FILE NO:		SHEET 1 OF 1	

Rio Tinto Legacy Management

4700 Daybreak Parkway South Jordan, Utah 84095



100 ARSENIC CONCENTRATION ug/L

DEEP INTERVAL ARSENIC CONTOUR

MAY 2012 NS GRAB SAMPLE

51.3/56.3/55.7/59.5

January/July/October 2013/November 2014 Arsenic Concentration ug/I

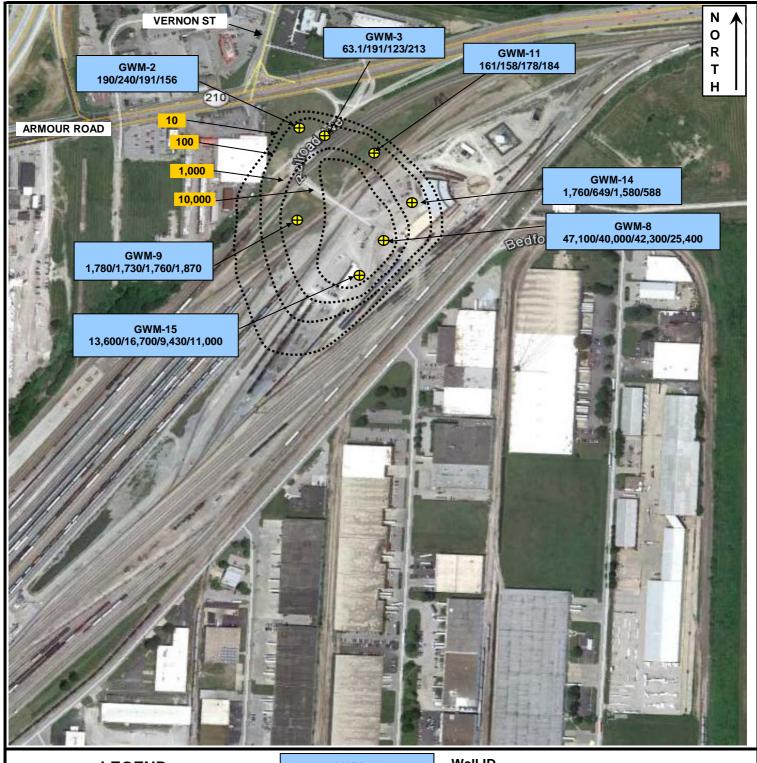
J: value estimated less than reporting limit

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South Jordan, Utah 84095

FIGURE 8: ARSENIC CONCENTRATIONS DEEP **INTERVAL NOVEMBER 2014**

DATE DRAWN: 12/17/2014	JOB NUMBER:
DRAWN BY: RVO	SCALE: 1 inch = approximately 575 feet
CHECKED BY: GP	FIGURE NO:
FILE NO:	SHEET 1 OF 1



LEGEND

ARSENIC CONCENTRATION ug/L

GWM-11 161/158/178/184

January/July/October 2013/November 2014 Arsenic Concentration ug/l



100

ARSENIC CONCENTRATION CONTOUR



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FIGURE 9: ARSENIC CONCENTRATIONS **BEDROCK INTERVAL NOVEMBER 2014**

DATE DRAWN	12/19/14	JOB NUMBER:
DRAWN BY:	RVO	SCALE: 1 inch = approximately 575 feet
CHECKED BY:	GP	FIGURE NO:
FILE NO:		SHEET 1 OF 1

TABLES

Table 1
ANALYTICAL SCHEDULE

Sample Type	Analytical Method	Target Constituent	Sampling Schedule
Water Samples	SW846-3050B/6010C	Total Arsenic/ Filtered Arsenic	Annual all wells
	SW846-7062	Total Arsenic/ Filtered Arsenic	Once November 2014 Competed November 2014
	SW846-3050B/6010	Total Metals	Twice, once Summer once Winter – Wells GWM-12S. GWM 10 S,D,B, GWM 13 S, D <i>Last round April 2011</i>
	SW846—9056A	General Inorganic Anions (Chloride, fluoride, bromide, nitrate, nitrite, phosphate, sulfate)	Quarterly All wells Last Round April 2011
	SW846-9060A	Total Organic Carbon	Quarterly All wells Last Round April 2011
	EPA-160.1	Total Dissolved Solids	Quarterly All wells Last Round April 2011
	SW846-By Calculation from 6010	Hardness	Quarterly All wells Last Round April 2011

Table 1
ANALYTICAL SCHEDULE (Cont.)

Sample Type	Analysis	Analytical Method	Sampling Schedule
Water Analyses for the FS	8260B	Aromatic and chlorinated volatile organics;	January 2013 Round Complete
	8270C	Semi volatile organic compounds;	
	8015B	Total Petroleum Hydrocarbons in the gasoline and mid diesel range	
	1664A	Oil and grease	
Soil and Water IDW	SW846-1311/6010C SW-846 Method 1010 SW-846 Method 9095B	TCLP Arsenic Flash Point Paint Filter	As Produced

Table 2
Water Level Measurements and Elevations

		11-Nov-14					
	Casing						
Well	Elevation	Depth to	Water Elevation				
Identification	(MSL)	Groundwater	(MSL)				
GWM-01S	739.82	19.00	720.82				
GWM-02S	739.81	19.46	720.35				
GWM-02D	739.94	19.49	720.45				
GWM-02B	739.65	19.29	720.36				
GWM-03S	742.13	21.72	720.41				
GWM-03D	742.01	21.64	720.37				
GWM-03B	742.10	21.73	720.37				
GWM-04S	733.82	13.78	720.04				
GWM-04D	733.88	13.72	720.16				
GWM-05S	735.60	15.49	720.11				
GWM-05D	735.85	15.73	720.12				
GWM-06S	737.80	18.74	719.06				
GWM-08S	742.51	22.22	720.29				
GWM-08D	742.76	22.40	720.36				
GWM-08B	742.54	22.28	720.26				
GWM-09S	733.47	12.98	720.49				
GWM-09D	733.83	13.41	720.42				
GWM-09B	733.50	13.20	720.30				
GWM-11S	736.08	15.59	720.49				
GWM-11D	736.07	15.66	720.41				
GWM-11B	735.76	15.64	720.12				
GWM-12S	740.82	20.34	720.48				
GWM-13S	731.72	11.86	719.86				
GWM-13D	731.70	11.89	719.81				
GWM-14B	743.93	23.61	720.32				
GWM-15B	741.43	21.17	720.26				
MW-11	740.51	19.96	720.55				
AVERAGE			720.26				

 $Table \ 3$ Field and Equipment Blanks $(Results \ \mu g/L)$

Parameter	Field Blank November 12, 2014	Field Blank November 13, 2014	Method 7062 Field Blank November 12, 2014	Equipment Blank November 14, 2014	Equipment Blank November 17, 2014
Arsenic	ND	ND	ND	ND	ND

ND = Not Detected

Table 4
Duplicate Analyses Groundwater
(All Dissolved - Results µ/L)

	METHOD 7062						METHOD 6010					
Parameter	GWM-08B	GWM-08B	RPD	GWM-08B	WM-08B		GWM-	GWM-	RPD	GWM-02B	GWM-02B	RPD
	Total	Total Dup		Dissolved	Dissolved Dup		02B Total	02B Total		Dissolved	Dissolved	
								Dup			Dup	
Arsenic	24,000	23,900	0.42	23,300	28,200	19.03	121	151	22.06	156	151	3.26

		METHOD 6010									
Parameter	GWM-08B Total	GWM-08B Total Dup	RPD	GWM-08B Dissolved	GWM-08B Dissolved Dup	RPD					
Arsenic	24,800	22,800	8.40	21,000	25,400	18.97					

Table 5 Laboratory QA/QC

Parameter	ALS December 11 Lab Report	ALS December 12 Lab Report	Test America December 11	Test America December 18
			Lab Report	Lab Report
Laboratory	All < Reporting	All < Reporting	All < Reporting	All < Reporting
Blanks	Limits	Limits	Limits	Limits
Laboratory	All Recoveries	All Recoveries	All Recoveries	All Recoveries
Control Spikes	within limits,	within acceptable	95% to 105%;	97% to 100%;
(LCS)	96%	range.	within	within acceptable
			acceptable range	range
Laboratory	Not run	Not run	RPD of 1.	All Recoveries
Control Spikes				within limits.
Duplicates				Recovery range
(LCSD)				98-102%. RPDs
				1-2.
Matrix	Matrix Spike not	Matrix Spike not	Matrix Spike not	Matrix Spike not
Spike/Matrix	valid due to high	valid due to high	valid due to high	valid due to high
Spike	arsenic	arsenic	arsenic	arsenic
Duplicates	concentration in	concentration in	concentration in	concentration in
(MS/MSD)	native sample.	native sample.	native sample.	native sample.
Temperature of	-0.3° C	0.6° C	1.6° C	0.2° C
cooler at receipt				
QA/QC effect	Data are of	Data are of	Data are of	Data are of
on Samples	sufficient quality	sufficient quality.	sufficient	sufficient quality
Analyzed		_	quality	_

Table 7 Data Assessment Analytical Methods 6010 and Method 7062 (All Dissolved - Results μ/L)

Well	Method 6010	Method 7062	RPD Totals	Method 6010	Method 7062	RPD Dissolved
	Total	Total		Dissolved	Dissolved	
GWM-02B	121	123	1.64	156	136	13.70
GWM-04S	29.30	31.6	7.55	27.80	23.2	18.04
GWM-04D	62.80	64.6	2.83	59.50	57.1	4.12
GWM-05S	92.80	46.2	67.05	91.80	42.9	72.61
GWM-05D	57.70	58.5	1.38	58.10	51.9	11.27
GWM-06S	51.60	31.9	47.19	ND*	ND*	0.00
GWM-08B	24800	24000	3.28	21000	23300	10.38
GWM-13D	75.40	39.2	63.18	68.40	31	75.25

^{*} Less than Reporting Level

BOLD = 7062 provides a significantly lower value

Table 8
Investigation Derived Waste (Results ug/L)

Parameter	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	TOTE
Arsenic - June 2013	Empty	Empty	Empty	Empty	Empty	TBD
Quantity (gallons)						30
Flash Point						>200
Paint Filter						Fail, Needs solidification
Intended Disposal						EQ Detroit

Notes

Limit is for hazardous classification is TCLP of 5 mg/L (5,000 ug/L). Solidify to pass the paint filter then Subtitle D disposal.

Tank Locations within Fenced in Area

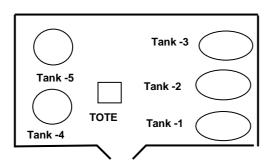


Table 6 Current and Historical Analytical Results (All Results μg/L)

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
MDNR-B1 ¹	September 1995	134	NA	ND	NA	NA	NA
MDNR-B1	August 1999	46.5	6.9	NA	NA	NA	NA
B-11	July 6, 2007	ND	NA	ND	ND	ND	ND
B-11	July 6, 2007 (DUP)	ND	NA	ND	ND	ND	ND
B-11	January 25, 2008	12.4	ND	ND	ND	ND	ND
B-11	September 21, 2008	ND	ND	NA this date forward	NA this date forward	NA this date forward	NA this date forward
B-11	February 17, 2009	11.3	ND				
B-11	July 28, 2009	12.3	ND				
B-11	February 3, 2010	ND	ND				
B-11	July, 14,2010	ND	ND				
B-11	October 5, 2010	ND	ND				
B-11	January 19, 2011	8.4 J	ND				
B-11	April 5, 2011	5.4 J	ND				
B-11	July 20, 2011	ND	ND				
B-11	October 4, 2011	ND	ND				
B-11	February 2, 2012	ND	ND				
B-11	April 6, 2012	ND	ND				
B-11	July 13, 2012	ND	ND				
B-11	January 14, 2013	ND	ND				
B-11	June 28, 2013	ND	ND				
B-11	October 25, 2013	ND	ND				
B-11	July 22, 2014	NS	NS				
	NOT SAMPLED NOV 14						

Table 6 Current and Historical Analytical Results (All Results μg/L)

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T µg/L	2,4,6 T μg/L
PC-1 ²	September 1995	150	NA	NA	NA	NA	NA
Piez-09 ²	October 21-25 1997	234	NA	NA	NA	NA	NA
GWM-01S	July 5, 2007	19.6	NA	ND	ND	ND	ND
GWM-01S	January 25, 2008	117	27.8	ND	ND	ND	ND
GWM-01S	September 21, 2008	33.3	11.8	NA this date forward	NA this date forward	NA this date forward	NA this date forward
GWM-01S	February 17, 2009	196	ND				
GWM-01S	July 28, 2009	56.9	17.9				
GWM-01S	February 3, 2010	63.7	21.3				
GWM-01S	July 14, 2010	66.2	ND				
GWM-01S	October 5, 2010	41.6	19.2				
GWM-01S	January 25, 2011	231	10.7				
GWM-01S	April 5, 2011	25.7	16.9				
GWM-01S	July 19. 2011	16.2	13.6				
GWM-01S	October 4, 2011	30.8	19.0				
GWM-01S	January 31, 2012	29.8	18.8				
GWM-01S	April 6, 2012	25.8	18.6				
GWM-01S	July 13, 2012	18.8	18.8				
GWM-01S	January 14, 2013	49.1	30.8				
GWM-01S	June 28, 2013	21.5	14.4				
GWM-01S	October 21, 2013	16.5	11.2				
GWM-01S	July 22, 2014	NS	NS				
GWM-01S	November 12, 2014	93.1	16.7				

		Arsenic	Arsenic				
Well		Unfiltered	Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
MW-10 ³	September 1995	362,000	NA	NA	NA	NA	NA
MW-10	August 1999	415,000	396,000	49.7	NA	NA	NA
GWM-02S	July 6, 2007	249,000	NA	ND	ND	ND	ND
GWM-02S	January 26, 2008	254,000	232,000	ND	ND	ND	ND
GWM-02S	September 21, 2008	170,000	73,200	ND	ND	ND	ND
GWM-02S	February 18, 2009	250,000	209,000	NA this date forward			
GWM-02S Dup	February 18, 2009	251,000	196,000				
GWM-02S	July 28, 2009	104,000	98,000				
GWM-02S Dup	July 28, 2009	100,000	97,500				
GWM-02S	February 4, 2010	212,000	ND				
GWM-02S	February 26, 2010	NA	270,000				
Reanalyze	•						
GWM-02S	March 4, 2010	197,000	203,000				
Resam. FF							
GWM-02S	March 4, 2010	NA	209,000				
Resam. Lab Fil.							
GWM-02S	July 16, 2010	60,200	59,800				
GWM-02S	October 8.2010	39,400	43,700				
GWM-02S	January 19, 2011	63,800	58,400				
GWM-02S Dup	January 19, 2011	63,600	60,600				
GWM-02S	April 8, 2011	53,800	51,200				
GWM-02S	July 25, 2011	46,400	42,200				
GWM-02S	October 7, 2011	121,000	128,000				
GWM-02S	February 2, 2012	162,000	171,000				
GWM-02S	April 10, 2012	155,000	136,000				
GWM-02S	July 13, 2012	183,000	175,000				
GWM-02S	January 14, 2013	130,000	147,000				
GWM-02S	July 8, 2013	111,000	102,000				
GWM-02S Dup	July 8, 2013	101,000 B	101,000				
GWM-02S	October 23, 2013	107,000	101,000				
GWM-02S	July 23, 2014	70,900	76,500				
GWM-02S	November 12, 2014	4,010	3,870				
GWM-02S	December 22, 2014	25,500	20,400				
GWM-02S	December 23, 2014	43,200	49,900				

Well		Arsenic Unfiltered	Arsenic Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	µg/L	μg/L
GWM-02D	July 6, 2007	158,000	NA	ND	ND	ND	ND
GWM-02D	January 26, 2008	62,600	61,900	ND	ND	ND	ND
GWM-02D DUP	January 26, 2008	52,000	62,200	ND	ND	ND	ND
GWM-02D	September 21, 2008	121,000	59,400	ND	ND	ND	ND
GWM-02D	February 18, 2009	86,400	88,900	NA this date forward			
GWM-02D	July 28, 2009	65,600	64,600				
GWM-02D	February 4, 2010	31,700	32,400				
GWM-02D Resampled Field Filtered	March 4, 2010	34,000	29,900				
GWM-02D Resampled Lab Filtered	March 4, 2010	NA	13,800				
GWM-02D	July 16, 2010	46,200	32,000				
GWM-02D	October 8, 2010	42,400	43,600				
GWM-02D	January 21, 2011	24,100	26,000				
GWM-02D	April 8, 2011	30,700	26,100				
GWM-02D	July 25, 2011	31,600	28,600				
GWM-02D	October 7, 2011	27,800	28,300				
GWM-02D	February 6, 2012	19,400	16,800				
GWM-02D	April 10, 2012	16,400	14,500				
GWM-02D	July 13, 2012	11,900	11,800				
GWM-02D	January 14, 2013	9,190	9,690				
GWM-02D	July 8, 2013	9,610	9,840				
GWM-02D	October 23, 2013	7,530	7,340				
GWM-02D	July 23, 2014	9,999	8,500				
GWM-02D	November 12, 2014	7,330	8,480				
						1	

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T µg/L
GWM-02B	July 6, 2007	605	NA	ND	ND	ND	ND
GWM-02B	January 26, 2008	567	580	2.56	ND	ND	ND
GWM-02B	September 21, 2008	500	489	ND	ND	ND	ND
GWM-02B	February 18, 2009	332	339	NA this date forward	NA this date forward	NA this date forward	NA this date forward
GWM-02B	July 28, 2009	405	396				
GWM-02B	February 4, 2010	303	332				
GWM-02B	July 16, 2010	368	31.9				
GWM-02B	October 8, 2010	328	329				
GWM-02B	January 19, 2011	252	255				
GWM-02B	April 8, 2011	262	262				
GWM-02B	July 25, 2011	355	322				
GWM-02B	October 7, 2011	295	306				
GWM-02B	February 2, 2012	238	246				
GWM-02B	April 10, 2012	223	199				
GWM-02B	July 13, 2012	229	217				
GWM-02B	January 14, 2013	178	190				
GWM-02B	July 3, 2013	227	240				
GWM-02B	October 23, 2013	204	191				
GWM-02B	July 23, 2014	225	235				
GWM-02B	November 14, 2014	121	156				

		Arsenic	Arsenic				
Well		Unfiltered	Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
NS-2 ⁴	September 1995	138,000	NA	NA	NA	NA	NA
GP-6 ⁵	October 21-25 1997	49,000	NA	NA	NA	NA	NA
GWM-03S	July 6, 2007	7,220	NA	ND	ND	ND	ND
GWM-03S	January 26, 2008	7,600	8,040	ND	ND	ND	ND
GWM-03S	September 21, 2008	3,780	6,370	NA this date forward			
GWM-03S	February 17, 2009	7,040	6,680				
GWM-03S	July 28, 2009	6,010	7,990				
GWM-03S	February 4, 2010	7,220	7,280				
GWM-03S	July 15, 2010	3,950	960				
GWM-03S	October 7, 2010	5,760	6,000				
GWM-03S	January 26, 2011	9,550	9,890				
GWM-03S	April 11, 2011	16,800	15,500				
GWM-03S	July 25, 2011	5,950	4,680				
GWM-03S	October 6, 2011	8,250	8,310				
GWM-03S	February 6, 2012	17,500	12,300				
GWM-03S	April 11, 2012	16,200	16,700				
GWM-03S	July 19, 2012	13,500	13,000				
GWM-03S	January 11, 2013	9,880	10,100				
GWM-03S	January 11, 2013	9,850	10,500				
DUP							
GWM-03S	July 8, 2013	11,400	10,000				
GWM-03S	October 28, 2013	4,270	4,540				
GWM-03S	July 23, 2014	2,790	2,890				
GWM-03S	November 12, 2014	3,850	3,720				

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T µg/L
GP-6 ⁵	October 21-25 1997	176,000	NA	NA	NA	NA	NA
GWM-03D	July 6, 2007	10,400	NA	ND	ND	ND	ND
GWM-03D	January 26, 2008	9,900	9,970	ND	ND	ND	ND
GWM-03D	September 21, 2008	9,410	9,530	NA this date forward	NA this date forward	NA this date forward	NA this date forward
GWM-03D	February 18, 2009	8,340	8,380				
GWM-03D	July 28, 2009	7,430	8,570				
GWM-03D	February 4, 2010	8,520	9,210				
GWM-03D	July 15, 2010	13,000	5,160				
GWM-03D	October 7, 2010	10,100	10,800				
GWM-03D	January 26, 2011	13,100	14,900				
GWM-03D	April 11, 2011	13,200	12,100				
GWM-03D	July 25, 2011	11,100	10,800				
GWM-03D	October 6, 2011	14,900	14,900				
GWM-03D	February 6, 2012	19,300	17,000				
GWM-03D	April 11, 2012	19,100	23,700				
GWM-03D	July 19, 2012	21,100	19,000				
GWM-03D	January 11, 2013	21,300	19,100				
GWM-03D	July 8, 2013	12,100	12,400				
GWM-03D	October 25, 2013	14,200	14,300				
GWM-03D	July 23, 2014	3,670	7,890				
GWM-03D	Resample August 18, 2014	12,300	11,800				
GWM-03D	November 12, 2014	8,730	11,400				

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
GWM-03B	July 6, 2007	4,430	NA	ND	ND	ND	ND
GWM-03B	January 26, 2008	66.6	68.3	ND	ND	ND	ND
GWM-03B	September 21, 2008	70.0	73.0	NA this date forward	NA this date forward	NA this date forward	NA this date forward
GWM-03B	February 18, 2009	56.9	50.1				
GWM-03B	July 28, 2009	62.2	62.3				
GWM-03B	February 4, 2010	52.1	58.4				
GWM-03B	February 4, 2010	48.9	55.0				
DUP	3						
GWM-03B	July 15, 2010	92	7.1				
GWM-03B	July 15, 2010	92.8	8.8				
DUP	, and the second						
GWM-03B	October 7, 2010	54.4	60.8				
GWM-03B	January 26, 2011	53.5	55.5				
GWM-03B	April 11, 2011	62.1	67.5				
GWM-03B	July 25, 2011	181	162				
GWM-03B	October 6, 2011	163	160				
GWM-03B	February 6, 2012	68.6	69.8				
GWM-03B	April 11, 2012	80.9	77.8				
GWM-03B	July 19, 2012	68.3	68.8				
GWM-03B	January 11, 2013	49.8	63.1				
GWM-03B	July 3, 3012	192	191				
GWM-03B	October 25, 2013	120	123				
GWM-03B	July 23, 2014	131	175				
GWM-03B	November 12, 2014	221	213		_	_	

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
16,70707Piez 03 ⁶	October 21-25 1997	100/240 (19' and 43' depth)	NA	NA	NA	NA	NA
GWM-04S	July 5, 2007	11.9	NA	ND	ND	ND	ND
GWM-04S	January 25, 2008	30	32.8	ND	ND	ND	ND
GWM-04S	September 21, 2008	12.7	13.3	NA this date forward	NA this date forward	NA this date forward	NA this date forward
GWM-04S	February 17, 2009	40.8	34.6				
GWM-04S	July 28, 2009	149	16				
GWM-04S	February 3, 2010	16.3	20.2				
GWM-04S	July 13, 2010	11.3	5.3				
GWM-04S	October 5, 2010	14.6	14.6				
GWM-04S	January 18, 2011	17.1	15.1				
GWM-04S	April 5, 2011	14.4	13.0				
GWM-04S	July 19, 2011	7.8	8.4				
GWM-04S DUP	July 19, 2011	8.5	8.6				
GWM-04S	October 4, 2011	14.9	14.1				
GWM-04S	January 31, 2012	20.5	11.8				
GWM-04S	April 6, 2012	13.8	10.2				
GWM-04S	July 13, 2012	17.4	22.6				
GWM-04S	January 9, 2013	34.1	34.8				
GWM-04S	July 1, 2013	25.9	25.8				
GWM-04S	October 28, 2013	31.6	24.7				
GWM-04S	July 22, 2014	23.2	20.2				
GWM-04S	November 12, 2014	29.3	27.8				

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
Piez036	October 21-25 1997	147	NA	NA	NA	NA	NA
GWM-04D	July 5, 2007	43.2	NA	ND	ND	ND	ND
GWM-04D	July 5, 2007 DUP	43.5	NA	ND	ND	ND	ND
GWM-04D	January 25, 2008	48.8	50.6	ND	ND	ND	ND
GWM-04D	September 21, 2008	54.3	56.8	NA this date forward	NA this date forward	NA this date forward	NA this date forward
GWM-04D	February 17, 2009	57.7	56.5				
GWM-04D	July 28, 2009	19.1	ND				
GWM-04D	February 3, 2010	58.2	67.7				
GWM-04D	July 13, 2010	53.6	13.7				
GWM-04D	October 5, 2010	59.2	55.1				
GWM-04D	January 18, 2011	57.3	5.8 J				
GWM-04D	April 5, 2011	65.4	61.4				
GWM-04D Dup	April 5, 2011	68.5	61.8				
GWM-04D	July 19, 2011	57.2	49.9				
GWM-04D	October 4, 2011	56.5	56.5				
GWM-04D	January 31, 2012	58.4	55.3				
GWM-04D	April 6, 2012	58.4	64.6				
GWM-04D Dup	April 6, 2012	59.5	59.3				
GWM-04D	July 13, 2012	57.6	64.1				
GWM-04D	January 9, 2013	52.7	51.3				
GWM-04D	July 1, 2013	58.6	56.3				
GWM-04D	October 28, 2013	59.1	55.7				
GWM-04D	July 22, 2014	88.7	57.0				
GWM-04D	November 12, 2014	62.8	59.5				

Well		Arsenic Unfiltered	Arsenic Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Piez05 ⁷	October 21-25 1997	154/51 (18'	NA	NA	NA	NA	NA
		and 25'					
		depth)					
Piez05 ⁷	August 17-18 1999	198 (25'	30.3	NA	NA	NA	NA
014/44.050	1.1.5.0007	depth)	NI A	NID	ND	ND	ND
GWM-05S	July 5, 2007	32.5	NA	ND	ND	ND	ND
GWM-05S	January 25, 2008	90.6	87.9	ND	ND	ND NA HILL A L	ND
GWM-05S	September 21, 2008	92.0	113.0	NA this date forward			
GWM-05S	February 17, 2009	125	80.7				
GWM-05S	July 28, 2009	53.0 74.5	48.8				
GWM-05S GWM-05S	February 3, 2010 February 3, 2010	74.5	85.8 82.3				
DUP	rebruary 3, 2010	74.0	82.3				
GWM-05S	July 13, 2010	77.2	14.2				
GWM-05S	October 5, 2010	95.8	91.4				
GWM-05S	January 18, 2011	85.0	81.8				
GWM-05S	April 5, 2011	93.9	93.0				
GWM-05S	July 19, 2011	110	102				
GWM-05S	October 3, 2011	152	139				
GWM-05S	January 31, 2012	102	105				
GWM-05S	April 6, 2012	98.6	96.8				
GWM-05S	July 12, 2012	129	129				
GWM-05S	July 12, 2012	132	134				
DUP	,						
GWM-05S	January 8, 2013	95.2	102				
GWM-05S	January 8, 2013	94.1	103				
DUP							
GWM-05S	July 1, 2013	124	117				
GWM-05S	October 24, 2013	124	124				
GWM-05S	July 22, 2014	77	78				
GWM-05S	November 12, 2014	92.8	91.8				

Well		Arsenic Unfiltered	Arsenic Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Piez05 ⁷	October 21-25 1997	69.3	NA	NA	NA	NA	NA
GWM-05D	July 5, 2007	66.5	NA	ND	ND	ND	ND
GWM-05D	January 25, 2008	62.9	69.7	ND	ND	ND	ND
GWM-05D	September 21, 2008	68.0	66.2	NA this date forward			
GWM-05D DUP	September 21, 2008	64.5	67.3				
GWM-05D	February 17, 2009	65.4	64.8				
GWM-05D	July 28, 2009	15.3	ND				
GWM-05D	February 3, 2010	66.6	74.8				
GWM-05D	July 13, 2010	69.4	8.5				
GWM-05 DUP	July 13, 2010	73.5	9.6				
GWM-05D	October 5, 2010	72.3	68.0				
GWM-05D	January 18, 2011	64.1	54.4				
GWM-05D	April 5, 2011	64.2	62.5				
GWM-05D	July 19, 2011	69.2	62.3				
GWM-05D	October 3, 2011	58.9	55.8				
GWM-05D	January 31, 2012	54.4	56.7				
GWM-05D	April 6, 2012	57.9	55.4				
GWM-05D	July 12, 2012	53.5	52.5				
GWM-05D	January 8, 2013	50.2	54.9				
GWM-05D	July 1, 2013	61.9	60.7				
GWM-05D	October 24, 2013	61.2	61.4				
GWM-05D	July 22, 2014	36.2	19.9				
GWM-05D	November 12, 2014	57.7	58.1				

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
GWM-06S	July 5, 2007	ND	NA	ND	ND	ND	ND
GWM-06S	January 25, 2008	88.6	15.6	ND	ND	ND	ND
GWM-06S	September 21, 2008	19.3	ND	NA this date forward	NA this date forward	NA this date forward	NA this date forward
GWM-06S	February 17, 2009	53.6	14.8				
GWM-06S	July 28, 2009	46.1	ND				
GWM-06S	February 3, 2010	22.3	10.8				
GWM-06S	July 13, 2010	12.6	4.7				
GWM-06S	October 5, 2010	11.1	9.0				
GWM-06S	January 18, 2011	6.2 J	ND				
GWM-06S	April 5, 2011	17.3	15.4				
GWM-06S	July 19, 2011	16.8	10.7				
GWM-06S	October 3, 2011	12.5	10.3				
GWM-06S	January 12, 2012	14.9	ND				
GWM-06S	April 6, 2012	13.8	10.7				
GWM-06S	July 12, 2012	13.5	ND				
GWM-06S	January 8, 2013	21.6	19.6				
GWM-06S	July 1, 2013	11.1	5.3 J				
GWM-06S	October 29, 2013	7.7J	6.4 J				
GWM-06S	July 22, 2014	NS	NS				
GWM-06S	November 12, 2014	51.6	ND				

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
Piez.018	October 21-25 1997	28.1	NA	NA	NA	NA	NA
Piez.018	August 17-18 1999	89.5	<2.33	NA	NA	NA	NA
GWM-07S	July 5, 2007	ND	NA	ND	ND	ND	ND
GWM-07S	January 25, 2008	76.1	ND	ND	ND	ND	ND
GWM-07S	September 21, 2008	22.4	16.2	NA this date forward	NA this date forward	NA this date forward	NA this date forward
GWM-07S	February 17, 2009	49.3	ND				
GWM-07S	July 28, 2009	15.4	10.6				
GWM-07S	February 3, 2010	14.8	15.6				
GWM-07S	July 13, 2010	14.8	6.8				
GWM-07S	October 5, 2010	16.8	19.3				
GWM-07S	January 18, 2011	16.9	15.6				
GWM-07S	April 5, 2011	7.5 J	5.1 J				
GWM-07S	July 19, 2011	15.7	12.0				
GWM-07S	October 3, 2011	10.1	12.0				
GWM-07S	January 31.2012	17.6	18.0				
GWM-07S	April 6, 2012	5.1 J	ND				
GWM-07S	July 12, 2012	24.7	18.1				
GWM-07S	January 11, 2013	Well o	ostructed at depth,	could not sample			
GWM-07S	June 28, 2013	Well o	Well obstructed at depth, could not sample				
GWM-07S	October 23, 2013	Well o	Well obstructed at depth, could not sample				
GW-07S	Well abandoned	\	Nell abandoned Jai	nuary 2014			

		Arsenic	Arsenic				
Well		Unfiltered	Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
GWM-08S	July 15, 2010	ND	ND	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-08S	October 7, 2010	6.9	ND				
GWM-08S	January 25, 2011	ND	ND				
GWM-8S DUP	January 25, 2011	ND	ND				
GWM-08S	April 11, 2011	ND	ND				
GWM-08S	July 22, 2011	ND	7.4 J				
GWM-08S	October 6, 2011	ND	ND				
GWM-08S	February 2, 2012	10	5.2 J				
GWM-08S	April 11, 2012	12.6	6.8 J				
GWM-08S	July 19, 2012	ND	ND				
GWM-08S	January 11, 2013	Ins	ufficient water, cou	ld not sample			
GWM-08S	July 9, 2013	6 J, B	ND	·			
GWM-08S	October 24, 2013	ND	ND				
GWM-08S	July 22, 2014	NS	NS				
	NOT SAMPLED NOV 14						
GWM-08D	July 15, 2010	240	28.8	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-08D	October 7, 2010	114	117				
GWM-08D Dup	October 7, 2010	116	123				
GWM-08D	January 25, 2011	93.2	95.6				
GWM-08D	April 11, 2011	219	130				
GWM-08D	July 22, 2011	212	187				
GWM-08D	October 6, 2011	158	157				
GWM-08D	February 2, 2012	104	106				
GWM-08D Dup	February 2, 2012	98.3	98.5				
GWM-08D	April 11, 2012	133	126				
GWM-08D	July 19, 2012	98.2	101				
GWM-08D	January 15, 2013	106	110				
GWM-08D	July 8, 2013	295 B	303				
GWM-08D	October 24, 2013	152	147				
GWM-08D	July 23, 2014	160	250				
GWM-08D	November 13, 2014	166	185				

Well		Arsenic Unfiltered	Arsenic Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
GWM-08B	July 15, 2010	18,700	10,400	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-08B	August 12, 2010	14,200	7,660				
Resample							
GWM-08B	October 7, 2010	15,200	19,200				
GWM-08B	January 25, 2011	19,000	18,600				
GWM-08B	April 11, 2011	16,300	14,800				
GWM-08B	July 22, 2011	14,700	13,600				
GWM-08B	October 6, 2011	18,000	16,900				
GWM-08B	February 2, 2012	21,200	23,300				
GWM-08B	April 11, 2012	29.300	29,000				
GWM-08B	July 19, 2012	27,600	31,800				
GWM-08B	January 15, 2013	40,100	47,100				
GWM-08B	July 9, 2013	40,000 B	40,000				
GWM-08B	October 24, 2013	39,200	42,300				
GWM-08B	July 23, 2014	28,600	32,900				
GWM-08B	November 17, 2014	22,800	25,400				
GWM-09S	July 14, 2010	9.5	ND	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-09S	October 7, 2010	7.0	7.4				
GWM-09S	January 21, 2011	9.2 J	ND				
GWM-09S	April 6, 2011	4.6 J	ND				
GWM-09S	July 21, 2011	ND	ND				
GWM-09S	October 4, 2011	16.3	ND				
GWM-09S	February 2, 2012	ND	ND				
GWM-09S	April 10, 2012	ND	ND				
GWM-09S	July 16, 2012	ND	ND				
GWM-09S	January 11, 2013		ufficient water, co	uld not sample			
GWM-09S	July 2, 2013	ND	ND				
GWM-09S	October 22, 2013	ND	ND				
GWM-09S	July 22, 2014	NS	NS				
	NOT SAMPLED NOV 14						

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
GWM-09D	July 14, 2010	54.3	3.8	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-09D	October 7, 2010	49.9	55.5				
GWM-09D	January 21, 2011	56.9	62.8				
GWM-09D	April 6, 2011	83.8	80.2				
GWM-09D	July 21, 2011	74.9	60.6				
GWM-09D	October 4, 2011	89.6	83.6				
GWM-09D	February 2, 2012	59.3	63.2				
GWM-09D	April 10, 2012	82.8	72.6				
GWM-09D	July 16, 2012	84.3	64.9				
GWM-09D	January 16, 2013	78.0	72.9				
GWM-09D	July 2, 2013	63.2	67.6				
GWM-09D	October 23, 2013	58.8	55.8				
GWM-09D	July 23, 2014	81.3	61.0				
GWM-09D	November 12, 2014	51.4	52.0				
			·				

Well		Arsenic Unfiltered	Arsenic Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	µg/L	μg/L	µg/L	μg/L	μg/L	μg/L
GWM-09B	January 21, 2011	10,300	12,600	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-09B	April 6, 2011	6,050	6,370				
GWM-09B	July 21, 2011	7,690	6,700				
GWM-09B	October 4, 2011	9,550	9,120				
GWM-09B	February 2, 2012	4,020	4,060				
GWM-09B	April 10, 2012	3,190	3,210				
GWM-09B Dup	April 10, 2012	3,230	3,150				
GWM-09B	July 16, 2012	2,900	2,660				
GWM-09B	January 16, 2013	1,970	1,780				
GWM-09B	July 2, 2013	1,530	1,730				
GWM-09B	October 23, 2013	1,890	1,760				
GWM-09B	July 23, 2014	1,550	1,440				
GWM-09B	November 12, 2014	1,840	1,870				
GWM-10S	July 14, 2010	4.5	ND	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-10S	October 6, 2010	ND	ND				
GWM-10S	January 21, 2011	7.9 J	ND				
GWM-10S	April 8, 2011	5 J	ND				
GWM-10S	July 20, 2011	ND	ND				
GWM-10S	October 5, 2011	5.5 J	8.8 J				
GWM-10S	February 1, 2012	ND	ND				
GWM-10S	April 9, 2012	19.9	ND				
		Well Abando	ned May 2012				
GWM-10D	October 6, 2010	1,180	1,180				
GWM-10D	January 21, 2011	908	955				
GWM-10D	April 8, 2011	1,670	1,680				
GWM-10D	July 20, 2011	1,660	1,620				
GWM-10D	October 5, 2011	1,590	1,670				
GWM-10D	February 1, 2012	1,150	1,210				
GWM-10D	April 9, 2012	1,670	1,770				
	<u>.</u>	Well Abandoned	l May 2012				

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T µg/L
GWM-10DD'	January 24, 2011	22,300	22,300	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-10DD'	April 8, 2011	17,500	17,600				
GWM-10DD'	July 21, 2011	21,200	20,000				
GWM-10DD'	October 5, 2011	18,600	18,500				
GWM-10DD'	February 1, 2012	24,300	21,700				
GWM-10DD'	April 9, 2012	13,100	13,400				
		Well Abando	ned May 2012				
GWM-10B	July 14, 2010	1,120	142	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-10B	October 10, 2010	2,280	2,340				
GWM-10B	January 24, 2011	4,440	5,310				
GWM-10B	April 8, 2011	4,550	4,580				
GWM-10B	July 21, 2011	9,200	7,940				
GWM-10B	October 5, 2011	8,000	8,430				
GWM-10B	February 1, 2012	17,400	17,100				
GWM-10B	April 9, 2012	17,900	15,600				
		Well Abando	ned May 2012				

Well		Arsenic Unfiltered	Arsenic Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
GWM-11S	July 15, 2010	ND	ND	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-11S	October 6, 2010	ND	ND				
GWM-11S	January 24, 2011	ND	ND				
GWM-11S	April 6, 2011	ND	ND				
GWM-11S	July 20, 2011	ND	ND				
GWM-11S	October 5, 2011	ND	ND				
GWM-11S	February 1, 2012	ND	ND				
GWM-11S	April 9, 2012	ND	ND				
GWM-11S	July 16, 2012	ND	ND				
GWM-11S	January 11, 2013		ufficient water, cou	ld not sample			
GWM-11S	July 2, 2013	7 J	ND				
GWM-11S	October 25, 2013	ND	ND				
GWM-11S	July 22, 2014	NS	NS				
	NOT SAMPLED NOV 14						
GWM-11D	July 15, 2010	1,990	370	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-11D	October 6, 2010	1,790	1,610				
GWM-11D Dup	October 6, 2010	1,700	1,620				
GWM-11D	January 24, 2011	1,140	1,170				
GWM-11D	April 6, 2011	3,280	3,320				
GWM-11D	July 20, 2011	2,520	2,540				
GWM-11D	October 5, 2011	2,980	3,150				
GWM-11D	February 1, 2012	708	826				
GWM-11D Dup	February 1, 2012	739	752				
GWM-11D	April 9, 2012	3,740	3,460				
GWM-11D	July 16, 2012	2,780	2,420				
GWM-11D	January 9, 2013	3,470	3,670				
GWM-11D	July 2, 2013	6,080	6,200				
GWM-11D	October 24, 2013	5,520	5,200				
GWM-11D	July 23, 2014	2,670	1,950				
GWM-11D	November 12, 2014	4,040	4,090				

Well		Arsenic Unfiltered	Arsenic Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
GWM-11B	January 24, 2011	124	134	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-11B	April 6, 2011	176	182				
GWM-11B	July 20, 2011	232	228				
GWM-11B	October 5, 2011	191	203				
GWM-11B Dup	October 5, 2011	188	202				
GWM-11B	February 1, 2012	283	291				
GWM-11B	April 11, 2012	242	248				
GWM-11B	July 16, 2012	193	179				
GWM-11B	January 9, 2013	165	161				
GWM-11B	July 2, 2013	160	158				
GWM-11B Dup	July 2, 2013	157	157				
GWM-11B	October 24, 2013	162	178				
GWM-11B	July 23, 2014	168	175				
GWM-11B	November 12, 2014	162	184				
GWM-12S	July 14, 2010	25.7	ND	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-12S	October 6, 2010	24.7	24.0				
GWM-12S	January 25, 2011	31.8	29.7				
GWM-12S	April 12, 2011	23.4	20.8				
GWM-12S	July 21, 2011	28.3	29.1				
GWM-12S	February 6, 2012	32.6	28.8				
GWM-12S	April 11, 2012	31.7	30.1				
GWM-12S	July 16, 2012	29.1	23.4				
GWM-12S	January 16, 2013	35.1	35.7				
GWM-12S	June 28, 2013	33.8	26.7				
GWM-12S	October 25, 2013	29.4	28.8				
GWM-12S	July 22, 2014	NS	NS				
GWM-12S	November 12, 2014	28.8	28.2				

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
GWM-13S	July 13, 2010	ND	ND	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-13S	October 6, 2010	7.2	ND	TW CAME TO GATES	TW CALL TO GALLES	TV TV III TOURIUS	TW CY III TCOUNGS
GWM-13S	January 19, 2011	ND	ND				
GWM-13S	April 7, 2011	ND	ND				
GWM-13S Dup	April 7, 2011	ND	ND				
GWM-13S	July 2011	NS	NS				
GWM-13S	October 4, 2011	ND	ND				
GMW-13S Dup	October 4, 2011	ND	ND				
GWM-13S	February 6, 2012	20.7	ND				
GWM-13S	April 9, 2012	ND	ND				
GWM-13S	July 12, 2012	ND	ND				
GWM-13S	January 9, 2013	ND	ND				
GWM-13S	July 3, 2013	5 J	ND				
GWM-13S	October 29, 2013	ND	ND				
GWM-13S	July 22, 2014	NS	NS				
GWM-13S	November 12, 2014	ND	ND				

Well		Arsenic Unfiltered	Arsenic Filtered	Penta Cholorphenol	2,4 D	2,4,5 T	2,4,6 T
Identification	Date Measured	µg/L	μg/L	µg/L	μg/L	μg/L	μg/L
GWM-13D	July 13, 2010	37.6	18.6	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-13D	October 6, 2010	41.4	36.1				
GWM-13D	January 19, 2011	44.6	43.5				
GWM-13D	April 7, 2011	47.2	46.6				
GWM-13D	July 2011	NS	NS				
GWM-13D	October 4, 2011	55.2	51.6				
GWM-13D	February 6, 2012	61.2	62.6				
GWM-13D	April 9, 2012	63.7	63.4				
GWM-13D	July 12, 2012	59.7	40.0				
GWM-13D	January 9, 2013	66.7	61.7				
GWM-13D	July 3, 2013	54.2	55.9				
GWM-13D	October 29, 2013	62.0	61.9				
GWM-13D	July 22, 2014	25.4	27.3				
GWM-13D	November 12, 2014	75.4	68.4				
GWM-14B	January 25, 2011	1,200	1,210	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-14B	April 8, 2011	1,060	1,040				
GWM-14B	July 22, 2011	345	327				
GWM-14B	October 5, 2011	499	480				
GWM-14B	February 2, 2012	1,660	1,690				
GWM-14B	April 11, 2012	1,700	1,670				
GWM-14B	July 19, 2012	1,710	1,530				
GWM-14B	January 11, 2013	1,270	1,760				
GWM-14B	July 3, 2013	589	649				
GWM-14B	October 23, 2013	1,660	1,580				
GWM-14B	July 23, 2014	701	644				
GWM-14B	November 13, 2014	884	588				

Well Identification	Date Measured	Arsenic Unfiltered µg/L	Arsenic Filtered µg/L	Penta Cholorphenol µg/L	2,4 D μg/L	2,4,5 T μg/L	2,4,6 T μg/L
GWM-15B	January 24, 2011	44,200	45,700	NA All Rounds	NA All Rounds	NA All Rounds	NA All Rounds
GWM-15B	April 11, 2011	39,300	38,700				
GWM-15B	July 22, 2011	44,400	42,900				
GWM-15B DUP	July 22, 2011	44,600	40,700				
GWM-15B	October 5, 2011	47,500	45,300				
GWM-15B	February 2, 2012	34,200	31,600				
GWM-15B	April 11, 2012	22,800	21,900				
GWM-15B	July 19, 2012	19,100	19.800				
GWM-15B DUP	July 19, 2012	18,800	18,100				
GWM-15B	January 11, 2013	12,800	13,600				
GWM-15B	July 2, 2013	16,400	16,700				
GWM-15B	October 25, 2013	9,810	9,430				
GWM-15B	July 23, 2014	12,000	9,200				
GWM-15B	November 12, 2014	9,960	11,000				

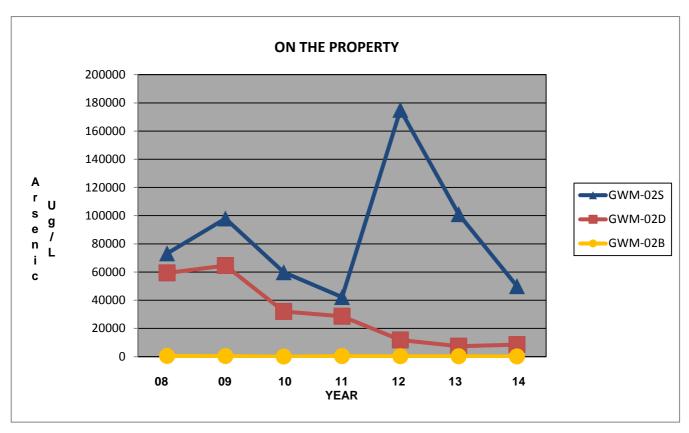
NS: Not Sampled NA: Not Analyzed ND: Not Detected

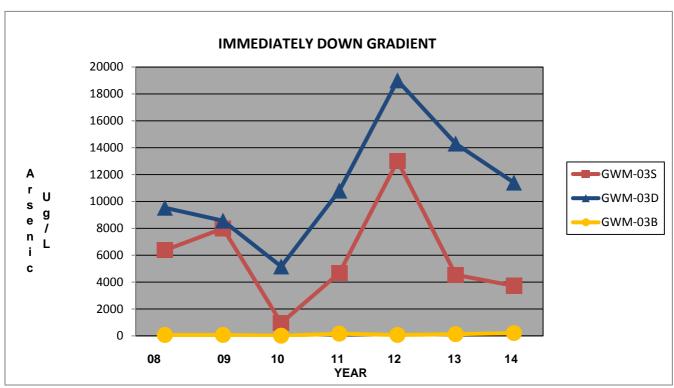
J: Estimated below reporting limit B: Also detected in lab blank

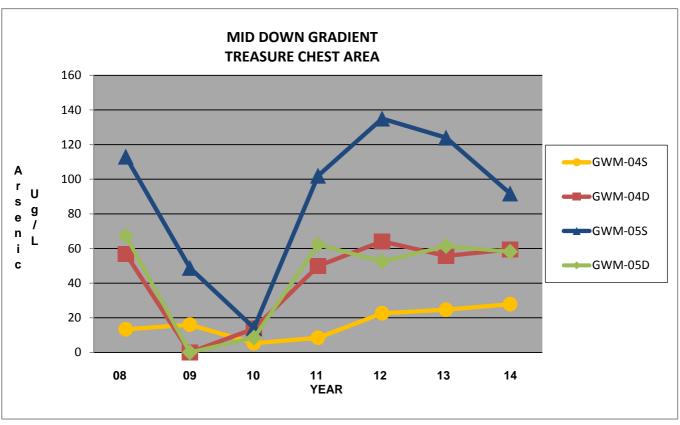
- 1) MDNR-B1 was a sample collected from the well now designated as B-11.
- 2) PC-1 was a grab sample collected in 1995. Though not near GWM-01, PC-1 is representative of up-gradient groundwater quality west of the site; GWM-01 is an up-gradient well placed to determine groundwater quality west of the site. Piezometer Piez.-09 was installed by Radian. The piezometer was located near GWM-01S. The piezometer has been abandoned.
- 3) Well MW-10 was installed by Teracon. The well was located near GWM-02. The well has been abandoned.
- 4) GW sample NS-2 was collected by the MDNR as part of the initial site investigation. The sample was collected from the vicinity of GWM-03S.
- 5) GW sample GP-6 was collected by the Radian as part of the initial site investigation. The sample was collected from the vicinity of GWM-03S and GWM-03D.
- 6) Piezometer Piez.-03 was installed by Radian. The piezometer was located near GWM-04S and GWM-04D. The piezometer has been abandoned.
- 7) Piezometer Piez.-05 was installed by Radian. The piezometer was located near GWM-05S and GWM-05D. The piezometer has been abandoned.
- 8) Piezometer Piez.-01 was installed by Radian. The piezometer was located near GWM-07S. The piezometer has been abandoned.

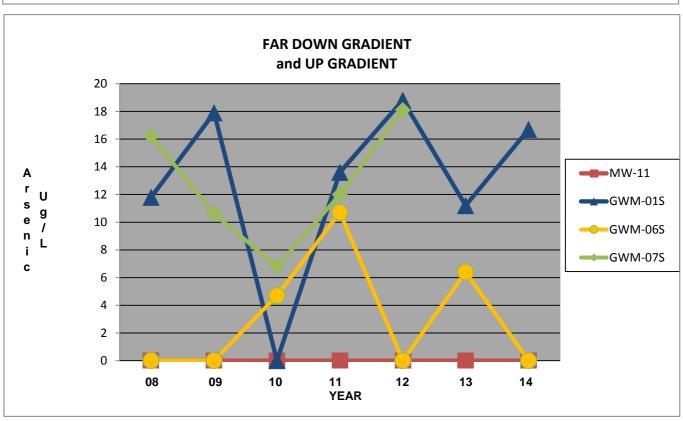
APPENDIX A

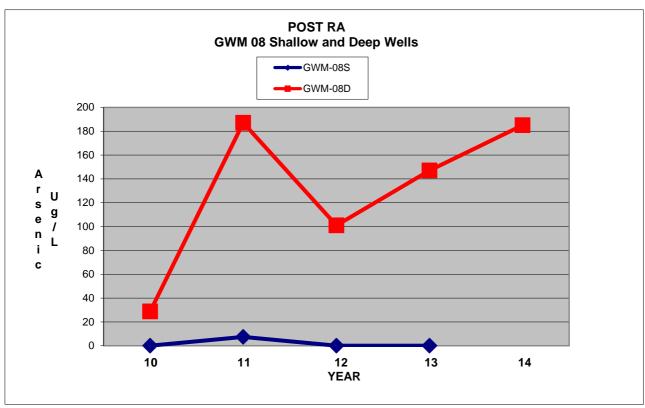
ARSENIC CONCENTRATION TREND GRAPHS

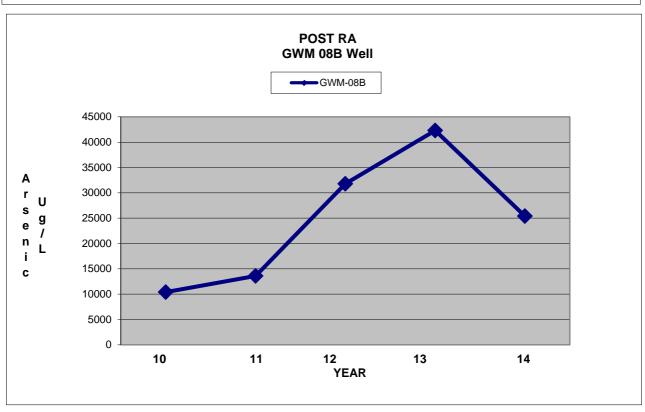


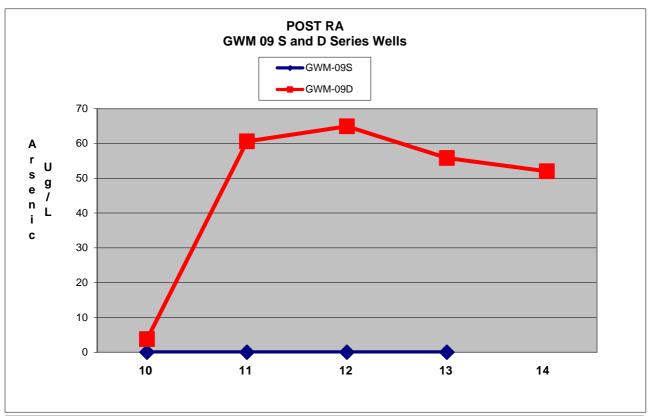


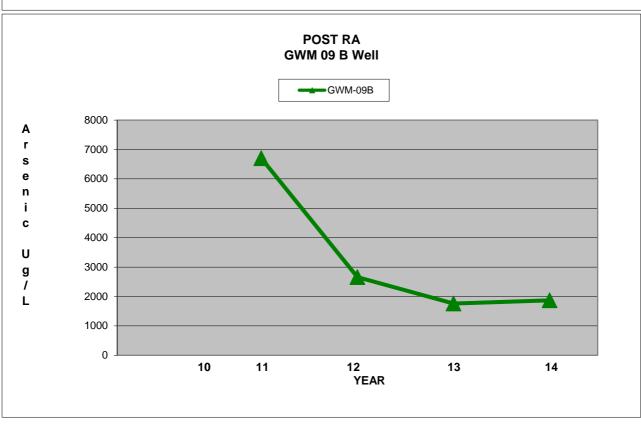


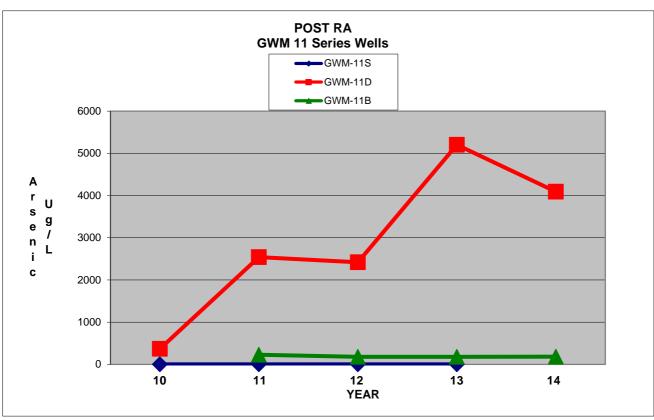


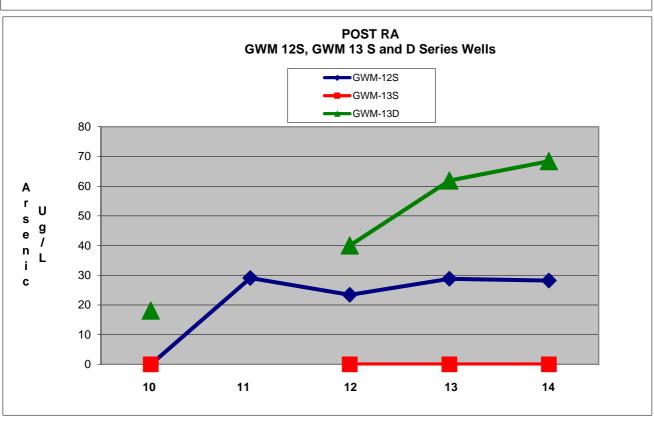


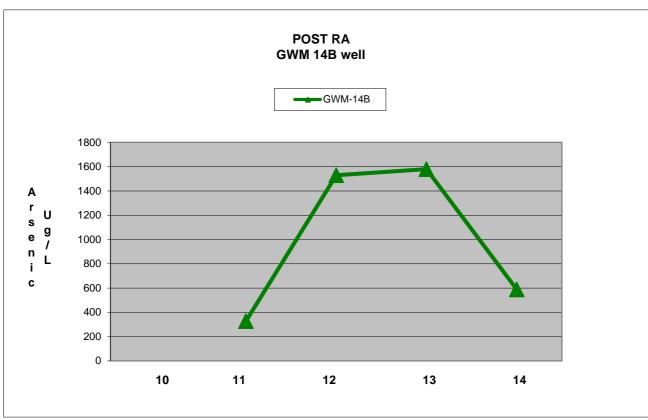


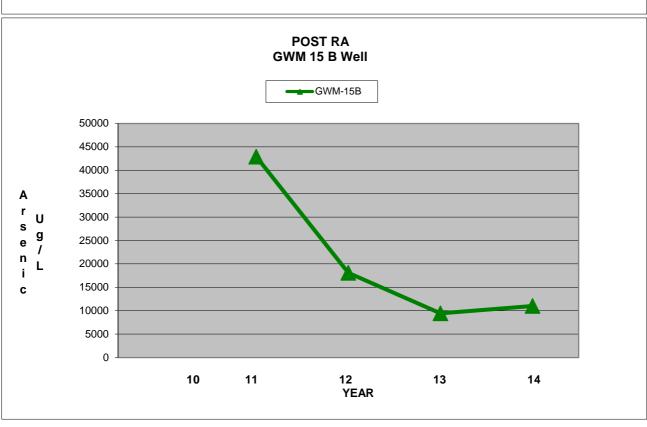






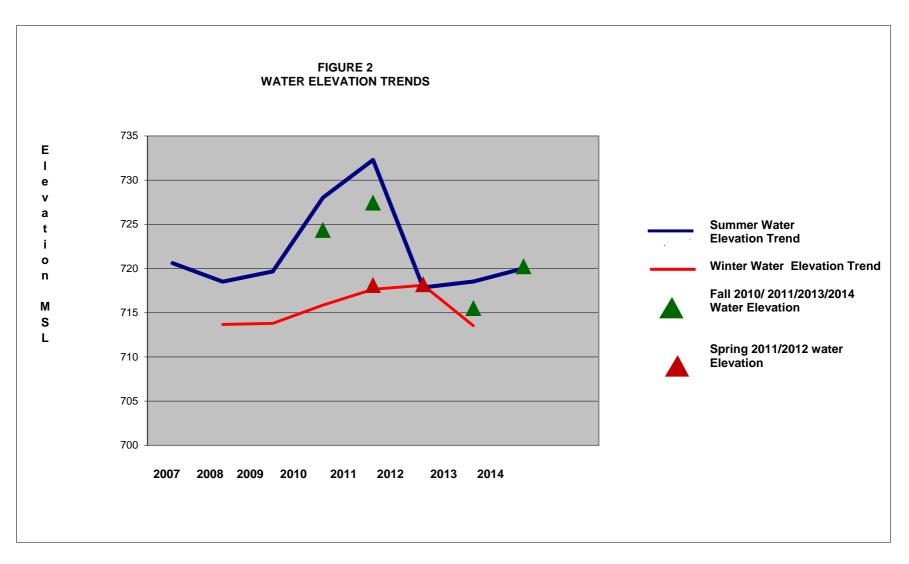






APPENDIX B HISTORICAL WATER LEVELS AND GRAPHS

RIO TINTO
LEGACY MANAGEMENT



Field Data Sheet Water Level Measurements and Well Depth

Date: 11/11/14

Measured By:

Manu Az

Site: Armour Road Site

Well Identification	Casing Elevation (MSL)	Depth to Groundwater	Total Depth	Comments
GWM-01S	739.82	19.00	27.991	
GWM-02S	739.81	19.46	32.55'	
GWM-02D	739.94	19.49	52.20	
GWM-02B	739.65	19.29'	99.49'	
GWM-03S	742.13	Jap 21.12'	32.09'	
GWM-03D	742.01	21.64'	52.04'	
GWM-03B	742.10	21.73	98,20'	
GWM-04S	733.82	13.78'	30.92'	
GWM-04D	733.88	13.72'	51.1'	
GWM-05S	735.60	15.49"	28.20	
GWM-05D	735.85	15.13'	50.37	
GWM-06S	737.80	18.74	29.21	
GWM-08S	NA	22.22'	28.81	
GWM-08D	742.76	22.40'	48,90'	
GWM-08B	742.54	22.28'	107.66	
GWM-09S	733.47	12.98	20.56	
GWM-09D	733.83	13.41	40.40	
GWM-09B	733.50	13.29	111.56	
GWM-11S	736.08	1559"	22.01	
GWM-11D	736.07	15.66	41.90'	
GWM-11B	735.76	15.64'	94.46	
GWM-12S	740.82	20.34'	28.75'	
GWM-13S	731.72	11.86	24.53	
GWM-13D	731.70	11.89	44.44'	
GWM-14B	743.93	23.61	108.51	
GWM-15B	741.43	21.17'	120.74'	
MW-11	740.51	19.96	37.07'	

Appendix B
Historical Water Level Measurements and Elevations

			HISTORICAI Water	Level Measurements a	and Elevations				
		5-Jul-0	7	24-Jan-	08	21-Sep-0	8	16-Feb-	09
Well Identification	Casing Elevation (MSL)	Depth to Groundwater	Water Elevation (MSL)						
GWM-01S	739.82	19.11	720.71	25.65	714.17	20.90	718.92	25.78	714.04
GWM-02S	739.81	18.95	720.86	25.58	714.23	21.02	718.79	25.86	713.95
GWM-02D	739.94	19.09	720.85	25.71	714.23	21.14	718.80	25.99	713.95
GWM-02B	739.65	18.77	720.88	25.71	713.94	20.81	718.84	25.70	713.95
GWM-03S	742.13	21.22	720.91	28.13	714.00	23.35	718.78	28.29	713.84
GWM-03D	742.01	21.08	720.93	28.03	713.98	23.21	718.80	28.13	713.88
GWM-03B	742.10	21.19	720.91	28.10	714.00	23.34	718.76	28.21	713.89
GWM-04S	733.82	13.41	720.41	20.45	713.37	15.58	718.24	20.33	713.49
GWM-04D	733.88	13.26	720.62	20.48	713.40	15.35	718.53	20.26	713.62
GWM-05S	735.60	14.99	720.61	22.38	713.22	17.42	718.18	22.10	713.50
GWM-05D	735.85	15.22	720.63	22.15	713.70	17.68	718.17	22.32	713.53
GWM-06S	737.80	17.87	719.93	24.91	712.89	20.10	717.70	24.25	713.55
GWM-07S	737.65	18.37	719.28	25.15	712.50	20.10	717.55	23.80	713.85
GWM-08S	740.91								
GWM-08D	740.81								
GWM-08B	740.80								
GWM-09S	733.47								
GWM-09D	733.83								
GWM-09B									
GWM-10S	735.36								
GWM-10D	735.45								
GWM-10DD'									
GWM-10B	735.32								
GWM-11S	736.08								
GWM-11D	736.07								
GWM-11B									
GWM-12S	740.82								
GWM-13S	731.72								
GWM-13D	731.70								
GWM-14B									
GWM-15B									
MW-11	740.51	19.54	720.97	26.11	714.40	21.39	719.12	26.06	714.45
VERAGE WATER ELEVA	TION SUMMER		720.61		1		718.51		
VERAGE WATER ELEVA	TION WINTER				713.68				713.8
Summer Elevations Vinter Elevations	720.61	718.51 713.68	719.68 713.80	728.01 715.86	732.28 717.66	717.86 718.10	718.53 713.52	720.01	
Fall Elevations Spring Elevations				724.37	727.45 718.13	718.22	715.52	720.26	

Appendix B
Historical Water Level Measurements and Elevations

Well Identification Casi GWM-01S GWM-02S GWM-02D GWM-02B GWM-03S GWM-03D GWM-03B GWM-03B GWM-04S	739.82 739.81 739.94 739.65 742.13 742.01 733.82 733.88	Depth to Groundwater 20.04 19.94 20.19 19.8 22.23 22.15 22.24	Water Elevation (MSL) 719.78 719.87 719.75 719.85 719.90 719.86	2-Feb- Depth to Groundwater 23.58 23.93 24.08 23.75 26.29	Water Elevation (MSL) 716.24 715.88 715.86 715.90	Depth to Groundwater 12.00 11.82 12.11	Water Elevation (MSL) 727.82 727.99 727.83	4-Oct-1 Depth to Groundwater 15.20 15.20 15.36	Water Elevation (MSL) 724.62 724.61
GWM-01S GWM-02S GWM-02D GWM-02B GWM-03S GWM-03D GWM-03B	739.82 739.81 739.94 739.65 742.13 742.01 742.10 733.82	20.04 19.94 20.19 19.8 22.23 22.15	(MSL) 719.78 719.87 719.75 719.85 719.90	23.58 23.93 24.08 23.75	(MSL) 716.24 715.88 715.86	Groundwater 12.00 11.82	Elevation (MSL) 727.82 727.99	Groundwater 15.20 15.20	Elevation (MSL) 724.62 724.61
GWM-02S GWM-02D GWM-02B GWM-03S GWM-03D GWM-03B	739.81 739.94 739.65 742.13 742.01 742.10 733.82	19.94 20.19 19.8 22.23 22.15	719.87 719.75 719.85 719.90	23.93 24.08 23.75	715.88 715.86	11.82	727.99	15.20	724.61
GWM-02D GWM-02B GWM-03S GWM-03D GWM-03B	739.94 739.65 742.13 742.01 742.10 733.82	20.19 19.8 22.23 22.15	719.75 719.85 719.90	24.08 23.75	715.86				
GWM-02B GWM-03S GWM-03D GWM-03B	739.65 742.13 742.01 742.10 733.82	19.8 22.23 22.15	719.85 719.90	23.75		12.11	727.83	15.36	
GWM-03S GWM-03D GWM-03B	742.13 742.01 742.10 733.82	22.23 22.15	719.90		715 90			13.30	724.58
GWM-03D GWM-03B	742.01 742.10 733.82	22.15		26.29	7 10.00	11.81	727.84	15.02	724.63
GWM-03B	742.10 733.82		719.86	_00	715.84	14.21	727.92	17.56	724.57
	733.82	22.24		26.14	715.87	14.12	727.89	17.42	724.59
CWW 048			719.86	26.21	715.89	14.18	727.92	17.57	724.53
GWW-043	722.00	14.35	719.47	18.06	715.76	5.74	728.08	9.72	724.10
GWM-04D	/33.88	14.3	719.58	17.99	715.89	5.69	728.19	9.66	724.22
GWM-05S	735.60	16.01	719.59	19.84	715.76	7.45	728.15	11.43	724.17
GWM-05D	735.85	16.26	719.59	20.10	715.75	7.67	728.18	11.74	724.11
GWM-06S	737.80	18.65	719.15	21.97	715.83	9.60	728.20	14.02	723.78
GWM-07S	737.65	18.46	719.19	21.78	715.87	9.40	728.25	13.97	723.68
GWM-08S	740.91					12.93	727.98	16.59	724.32
GWM-08D	740.81					12.82	727.99	16.49	724.32
GWM-08B	740.80					12.76	728.04	16.44	724.36
GWM-09S	733.47					5.35	728.12	9.82	723.65
GWM-09D	733.83					5.78	728.05	9.25	724.58
GWM-09B									
GWM-10S	735.36					7.30	728.06	10.78	724.58
GWM-10D	735.45					7.38	728.07	10.86	724.59
GWM-10DD'									
GWM-10B	735.32					7.26	728.06	10.74	724.58
GWM-11S	736.08					8.00	728.08	11.49	724.59
GWM-11D	736.07					8.11	727.96	11.43	724.64
GWM-11B									
GWM-12S	740.82					13.15	727.67	16.06	724.76
GWM-13S	731.72					3.66	728.06	7.73	723.99
GWM-13D	731.70					3.60	728.10	7.79	723.91
GWM-14B									
GWM-15B									
MW-11	740.51	20.45	720.06	24.43	716.08	12.72	727.79	15.65	724.86

AVERAGE WATER ELEVATION SUMMER

719.68

728.01

AVERAGE WATER ELEVATION WINTER AVERAGE WATER ELEVATION FALL

715.86

AVERAGE WATER ELEVATION SPRING

Appendix B Historical Water Level Measurements and Elevations

		24-Jan-11		4-Apr-11		18-Jul-11		3-Oct-11	
Well Identification	Casing Elevation (MSL)	Depth to Groundwater	Water Elevation (MSL)						
GWM-01S	739.82	20.94	718.88	20.50	719.32	7.99	731.83	11.95	727.87
GWM-02S	739.81	21.85	717.96	21.78	718.03	7.88	731.93	12.00	727.81
GWM-02D	739.94	21.70	718.24	21.93	718.01	8.00	731.94	12.11	727.83
GWM-02B	739.65	21.42	718.23	21.58	718.07	7.65	732.00	11.86	727.79
GWM-03S	742.13	23.90	718.23	25.84	716.29	10.00	732.13	14.40	727.73
GWM-03D	742.01	23.88	718.13	23.98	718.03	9.90	732.11	14.31	727.70
GWM-03B	742.10	23.97	718.13	24.08	718.02	9.95	732.15	14.40	727.70
GWM-04S	733.82	17.05	716.77	15.63	718.19	1.38	732.44	6.77	727.05
GWM-04D	733.88	16.97	716.91	15.57	718.31	1.31	732.57	6.75	727.13
GWM-05S	735.60	18.64	716.96	17.42	718.18	2.85	732.75	8.51	727.09
GWM-05D	735.85	18.93	716.92	17.64	718.21	3.09	732.76	8.80	727.05
GWM-06S	737.80	21.95	715.85	19.28	718.52	4.58	733.22	11.30	726.50
GWM-07S	737.65	22.38	715.27	18.75	718.90	4.18	733.47	11.48	726.17
GWM-08S	740.91	23.33	717.58	22.85	718.06	8.52	732.39	13.43	727.48
GWM-08D	740.81	23.35	717.46	22.74	718.07	8.42	732.39	13.35	727.46
GWM-08B	740.80	23.25	717.55	22.69	718.11	8.37	732.43	13.39	727.41
GWM-09S	733.47	15.36	718.11	15.27	718.20	1.12	732.35	5.68	727.79
GWM-09D	733.83	15.81	718.02	15.68	718.15	1.58	732.25	6.13	727.70
GWM-09B	733.50	15.65	717.85	15.54	717.96	1.45	732.05	6.00	727.50
GWM-10S	735.36	17.30	718.06	17.23	718.13	3.03	732.33	7.62	727.74
GWM-10D	735.45	17.37	718.08	17.29	718.16	3.11	732.34	7.71	727.74
GWM-10DD'	735.27	17.83	717.44	17.24	718.03	3.09	732.18	7.65	727.62
GWM-10B	735.32	17.28	718.04	17.19	718.13	3.04	732.28	7.62	727.70
GWM-11S	736.08	18.01	718.07	17.94	718.14	3.74	732.34	8.38	727.70
GWM-11D	736.07	18.05	718.02	18.05	718.02	3.73	732.34	8.40	727.67
GWM-11B	735.76	15.49	720.27	17.75	718.01	3.56	732.20	8.16	727.60
GWM-12S	740.82	22.13	718.69	22.68	718.14	8.99	731.83	13.35	727.47
GWM-13S	731.72	15.49	716.23	13.56	718.16	0.00	731.72	4.95	726.77
GWM-13D	731.70	15.22	716.48	13.50	718.20	0.00	731.70	4.94	726.76
GWM-14B	743.93	26.33	717.60	25.84	718.09	11.46	732.47	16.48	727.45
GWM-15B	738.83	21.32	717.51	20.71	718.12	6.46	732.37	11.52	727.31
MW-11	740.51	22.83	717.68	22.36	718.15	8.65	731.86	12.41	728.10

AVERAGE WATER ELEVATION WINTER

717.66

AVERAGE WATER ELEVATION FALL

727.45

Appendix B
Historical Water Level Measurements and Elevations

Identification (MSL) Groundwater (MSL) Groundwater (MSL) Groundwater GWM-01S 739.82 21.02 718.80 20.97 718.85 21 GWM-02S 739.81 21.17 718.64 21.50 718.31 21 GWM-02D 739.94 21.30 718.64 21.67 718.27 21 GWM-02B 739.65 21.02 718.63 21.32 718.33 21 GWM-03D 742.13 23.55 718.58 23.87 718.26 23 GWM-03D 742.10 23.50 718.51 23.75 718.26 23 GWM-04S 733.82 16.37 717.45 15.79 718.03 16 GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-08S 735.60 18.14 717.45 17.80 718.05 18 GWM-08D 737.80 21.34 716.46 19.89 717.91 20			Surcincitis and E						
Well Identification Casing Elevation (MSL) Depth to Groundwater Water Elevation (MSL) Depth to Groundwater Depth to Groundwater Depth to Groundwater Water Elevation (MSL) Depth to Groundwater Dep			30-Ja	nn-12	5-Ar	or-12	11-Jul-12		
GWM-02S 739.81 21.17 718.64 21.50 718.31 21 GWM-02D 739.94 21.30 718.64 21.67 718.27 21 GWM-02B 739.65 21.02 718.63 21.32 718.33 21 GWM-03S 742.13 23.55 718.58 23.87 718.26 23 GWM-03D 742.01 23.50 718.51 23.75 718.26 23 GWM-03B 742.10 23.56 718.54 23.81 718.29 23 GWM-04S 733.82 16.37 717.45 15.79 718.03 16 GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-05D 735.85 18.40 717.45 17.80 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-08D		Elevation	Depth to Elevation		Depth to	Water Elevation	Depth to Groundwater	Water Elevation (MSL)	
GWM-02D 739.94 21.30 718.64 21.67 718.27 21 GWM-02B 739.65 21.02 718.63 21.32 718.33 21 GWM-03S 742.13 23.55 718.58 23.87 718.26 23 GWM-03D 742.01 23.50 718.51 23.75 718.26 23 GWM-03B 742.10 23.56 718.54 23.81 718.29 23 GWM-04S 733.82 16.37 717.45 15.79 718.03 16 GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-05S 735.60 18.14 717.46 17.56 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S	GWM-01S	739.82	21.02	718.80	20.97	718.85	21.60	718.22	
GWM-02B 739.65 21.02 718.63 21.32 718.33 21 GWM-03S 742.13 23.55 718.58 23.87 718.26 23 GWM-03B 742.10 23.56 718.51 23.75 718.26 23 GWM-04S 733.82 16.37 717.45 15.79 718.03 16 GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-05S 735.60 18.14 717.46 17.56 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08B 740.80 22.77 718.03 22.69 718.12 22 GWM-09D 733.83 15.33 718.57 15.03 718.44 15 GWM-10P	GWM-02S	739.81	21.17	718.64	21.50	718.31	21.65	718.16	
GWM-03S 742.13 23.55 718.58 23.87 718.26 23 GWM-03D 742.01 23.50 718.51 23.75 718.26 23 GWM-03B 742.10 23.56 718.54 23.81 718.29 23 GWM-04S 733.82 16.37 717.45 15.79 718.03 16 GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-05S 735.60 18.14 717.46 17.56 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.63 718.12 22 GWM-08D	GWM-02D	739.94	21.30	718.64	21.67	718.27	21.76	718.18	
GWM-03D 742.01 23.50 718.51 23.75 718.26 23 GWM-03B 742.10 23.56 718.54 23.81 718.29 23 GWM-04S 733.82 16.37 717.45 15.79 718.03 16 GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-05D 735.80 18.14 717.46 17.56 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-05D 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D	GWM-02B	739.65	21.02	718.63	21.32	718.33	21.54	718.11	
GWM-03B 742.10 23.56 718.54 23.81 718.29 23 GWM-04S 733.82 16.37 717.45 15.79 718.03 16 GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-05S 735.60 18.14 717.46 17.56 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D	GWM-03S	742.13	23.55	718.58	23.87	718.26	23.98	718.15	
GWM-04S 733.82 16.37 717.45 15.79 718.03 16 GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-05S 735.60 18.14 717.46 17.56 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09B 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-10D	GWM-03D	742.01	23.50	718.51	23.75	718.26	23.88	718.13	
GWM-04D 733.88 16.32 717.56 15.74 718.14 16 GWM-05S 735.60 18.14 717.46 17.56 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.27 15.35 718.15 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S	GWM-03B	742.10	23.56	718.54	23.81	718.29	23.99	718.11	
GWM-05S 735.60 18.14 717.46 17.56 718.04 18 GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10DD	GWM-04S	733.82	16.37	717.45	15.79	718.03	16.30	717.52	
GWM-05D 735.85 18.40 717.45 17.80 718.05 18 GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10B <t< td=""><td>GWM-04D</td><td>733.88</td><td>16.32</td><td>717.56</td><td>15.74</td><td>718.14</td><td>16.26</td><td>717.62</td></t<>	GWM-04D	733.88	16.32	717.56	15.74	718.14	16.26	717.62	
GWM-06S 737.80 21.34 716.46 19.89 717.91 20 GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10DD 735.45 16.94 718.51 17.11 718.34 N GWM-10DD 735.27 16.90 718.37 17.06 718.21 N GWM-11S <	GWM-05S	735.60	18.14	717.46	17.56	718.04	18.01	717.59	
GWM-07S 737.65 21.66 715.99 19.75 717.90 21 GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10DD 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D	GWM-05D	735.85	18.40	717.45	17.80	718.05	18.31	717.54	
GWM-08S 740.91 22.88 718.03 22.80 718.11 23 GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D <t< td=""><td>GWM-06S</td><td>737.80</td><td>21.34</td><td>716.46</td><td>19.89</td><td>717.91</td><td>20.83</td><td>716.97</td></t<>	GWM-06S	737.80	21.34	716.46	19.89	717.91	20.83	716.97	
GWM-08D 740.81 22.78 718.03 22.69 718.12 22 GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-12S <t< td=""><td>GWM-07S</td><td>737.65</td><td>21.66</td><td>715.99</td><td>19.75</td><td>717.90</td><td>21.03</td><td>716.62</td></t<>	GWM-07S	737.65	21.66	715.99	19.75	717.90	21.03	716.62	
GWM-08B 740.80 22.77 718.03 22.63 718.17 22 GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13D <t< td=""><td>GWM-08S</td><td>740.91</td><td>22.88</td><td>718.03</td><td>22.80</td><td>718.11</td><td>23.07</td><td>717.84</td></t<>	GWM-08S	740.91	22.88	718.03	22.80	718.11	23.07	717.84	
GWM-09S 733.47 14.90 718.57 15.03 718.44 15 GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13D <t< td=""><td>GWM-08D</td><td>740.81</td><td>22.78</td><td>718.03</td><td>22.69</td><td>718.12</td><td>22.94</td><td>717.87</td></t<>	GWM-08D	740.81	22.78	718.03	22.69	718.12	22.94	717.87	
GWM-09D 733.83 15.33 718.50 15.48 718.35 15 GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13D 731.72 14.65 717.07 13.84 717.86 14 GWM-14B <t< td=""><td>GWM-08B</td><td>740.80</td><td>22.77</td><td>718.03</td><td>22.63</td><td>718.17</td><td>22.94</td><td>717.86</td></t<>	GWM-08B	740.80	22.77	718.03	22.63	718.17	22.94	717.86	
GWM-09B 733.50 15.23 718.27 15.35 718.15 15 GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13S 731.72 14.65 717.07 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-09S	733.47	14.90	718.57	15.03	718.44	15.29	718.18	
GWM-10S 735.36 16.84 718.52 17.03 718.33 N GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13D 731.72 14.65 717.07 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-09D	733.83	15.33	718.50	15.48	718.35	15.70	718.13	
GWM-10D 735.45 16.94 718.51 17.11 718.34 N GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13S 731.72 14.65 717.07 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-09B	733.50	15.23	718.27	15.35	718.15	15.53	717.97	
GWM-10DD' 735.27 16.90 718.37 17.06 718.21 N GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13S 731.72 14.65 717.07 13.84 717.88 14 GWM-13D 731.70 14.69 717.01 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-10S	735.36	16.84	718.52	17.03	718.33	NM	NA	
GWM-10B 735.32 16.87 718.45 17.00 718.32 N GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13S 731.72 14.65 717.07 13.84 717.88 14 GWM-13D 731.70 14.69 717.01 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-10D	735.45	16.94	718.51	17.11	718.34	NM	NA	
GWM-11S 736.08 17.59 718.49 17.76 718.32 17 GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13S 731.72 14.65 717.07 13.84 717.86 14 GWM-13D 731.70 14.69 717.01 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-10DD'	735.27	16.90	718.37	17.06	718.21	NM	NA	
GWM-11D 736.07 17.60 718.47 17.80 718.27 17 GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13S 731.72 14.65 717.07 13.84 717.88 14 GWM-13D 731.70 14.69 717.01 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-10B	735.32	16.87	718.45	17.00	718.32	NM	NA	
GWM-11B 735.76 17.40 718.36 17.57 718.19 17 GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13S 731.72 14.65 717.07 13.84 717.88 14 GWM-13D 731.70 14.69 717.01 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-11S	736.08	17.59	718.49	17.76	718.32	17.90	718.18	
GWM-12S 740.82 22.24 718.58 22.38 718.44 22 GWM-13S 731.72 14.65 717.07 13.84 717.88 14 GWM-13D 731.70 14.69 717.01 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-11D	736.07	17.60	718.47	17.80	718.27	17.96	718.11	
GWM-13S 731.72 14.65 717.07 13.84 717.88 14 GWM-13D 731.70 14.69 717.01 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-11B	735.76	17.40	718.36	17.57	718.19	17.72	718.04	
GWM-13D 731.70 14.69 717.01 13.84 717.86 14 GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-12S	740.82	22.24	718.58	22.38	718.44	22.46	718.36	
GWM-14B 743.93 25.87 718.06 25.78 718.15 26	GWM-13S	731.72	14.65	717.07	13.84	717.88	14.49	717.23	
	GWM-13D	731.70	14.69	717.01	13.84	717.86	14.48	717.22	
GWM-15B 738.83 20.67 718.16 20.66 718.17 20	GWM-14B	743.93	25.87	718.06	25.78	718.15	26.03	717.90	
5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	GWM-15B	738.83	20.67	718.16	20.66	718.17	20.88	717.95	
MW-11 740.51 21.47 719.04 21.97 718.54 22	MW-11	740.51	21.47	719.04	21.97	718.54	22.10	718.41	

AVERAGE WATER ELEVATION SUMMER

AVERAGE WATER ELEVATION WINTER

718.10

AVERAGE WATER ELEVATION FALL

AVERAGE WATER ELEVATION SPRING

717.86

Appendix B
Historical Water Level Measurements and Elevations

	Elevation modified			6/26/2013 (Da	· · · · · · · · · · · · · · · · · · ·						
	January 2013	7-Ja	n-13	Tab	le 2)	21-0	ct-13	21-Ju	ıl-14	11-No	ov-14
Well Identification	Casing Elevation (MSL)	Depth to Groundwater	Water Elevation (MSL)	Depth to Groundwater	Water Elevation (MSL)	Depth to Groundwater	Water Elevation (MSL)	Depth to Groundwater	Water Elevation (MSL)	Depth to Groundwater	Water Elevation (MSL)
GWM-01S	739.82	25.35	714.47	21.03	718.79	24.16	715.66	19.70	720.12	19.00	720.82
GWM-02S	739.81	25.70	714.11	21.45	718.36	24.15	715.66	19.94	719.87	19.46	720.35
GWM-02D	739.94	25.85	714.09	21.62	718.32	24.31	715.63	20.00	719.94	19.49	720.45
GWM-02B	739.65	25.58	714.07	21.32	718.33	24.00	715.65	19.79	719.86	19.29	720.36
GWM-03S	742.13	28.07	714.06	23.86	718.27	26.48	715.65	22.19	719.94	21.72	720.41
GWM-03D	742.01	28.04	713.97	23.66	718.35	26.42	715.59	22.10	719.91	21.64	720.37
GWM-03B	742.10	28.11	713.99	23.88	718.22	26.48	715.62	22.13	719.97	21.73	720.37
GWM-04S	733.82	20.92	712.90	15.13	718.69	18.51	715.31	13.85	719.97	13.78	720.04
GWM-04D	733.88	20.88	713.00	15.13	718.75	18.46	715.42	13.83	720.05	13.72	720.16
GWM-05S	735.60	22.66	712.94	16.78	718.82	20.25	715.35	15.47	720.13	15.49	720.11
GWM-05D	735.85	22.96	712.89	17.09	718.76	20.51	715.34	15.74	720.11	15.73	720.12
GWM-06S	737.80	25.80	712.00	18.95	718.85	22.64	715.16	17.85	719.95	18.74	719.06
GWM-07S	737.65	26.05	711.60	18.97	718.68	NM	NA	Abandoned	NA	Abandoned	NA
GWM-08S	742.51	28.46	NA	23.98	718.53	27.08	715.43	NM	NA	22.22	720.29
GWM-08D	742.76	29.31	713.45	24.08	718.68	27.23	715.53	22.75	720.01	22.40	720.36
GWM-08B	742.54	29.19	713.35	24.29	718.25	27.05	715.49	22.65	719.89	22.28	720.26
GWM-09S	733.47	19.50	713.97	14.82	718.65	17.75	715.72	13.40	720.07	12.98	720.49
GWM-09D	733.83	19.96	713.87	15.26	718.57	18.19	715.64	13.83	720.00	13.41	720.42
GWM-09B	733.50	19.85	713.65	15.20	718.30	18.09	715.41	13.70	719.80	13.20	720.30
GWM-10S	735.36	NM	NA	NM	NA	NM	NA	Abandoned	NA	Abandoned	NA
GWM-10D	735.45	NM	NA	NM	NA	NM	NA	Abandoned	NA	Abandoned	NA
GWM-10DD'	735.27	NM	NA	NM	NA	NM	NA	Abandoned	NA	Abandoned	NA
GWM-10B	735.32	NM	NA	NM	NA	NM	NA	Abandoned	NA	Abandoned	NA
GWM-11S	736.08	21.91	714.17	17.44	718.64	20.44	715.64	15.99	720.09	15.59	720.49
GWM-11D	736.07	22.11	713.96	17.52	718.55	20.46	715.61	16.01	720.06	15.66	720.41
GWM-11B	735.76	22.00	713.76	17.34	718.42	20.19	715.57	15.80	719.96	15.64	720.12
GWM-12S	740.82	26.45	714.37	22.60	718.22	25.02	715.80	21.14	719.68	20.34	720.48
GWM-13S	731.72	19.20	712.52	13.04	718.68	16.53	715.19	11.75	719.97	11.86	719.86
GWM-13D	731.70	19.19	712.51	13.01	718.69	16.54	715.16	11.70	720.00	11.89	719.81
GWM-14B	743.93	30.36	713.57	25.31	718.62	28.44	715.49	22.76	721.17	23.61	720.32
GWM-15B	741.43	28.06	713.37	22.85	718.58	25.95	715.48	21.50	719.93	21.17	720.26
MW-11	740.51	26.00	714.51	22.25	718.26	24.64	715.87	20.75	719.76	19.96	720.55
					718.53				720.01		

718.53 720.01

720.26

APPENDIX C

GROUNDWATER SAMPLE COLLECTION FIELD DATA SHEETS

Project Number: M	H001026.0002	HydraSleeve Size:	1-lime	: GWM	
rain and	251 Armour Road Site	Annual States			•
2007	MA	Weight Description:	11-11-14		
Sleeve Installed By:	104	Date Installed:	1420		
Weather:	00	Time Installed:	1920		
Casing Material:	IVC	Water Column:	r=	*	UW3
Casing Diameter:	with	Gallons/Foot:	-		
Total Depth (btoc):	27.99	Gallons in Well:			
Well Casing Volumes (Gallons/Foot)	1" = 0.04	2.5" = 0.26 3.5" = 0.50 3" = 0.37 4" = 0.65	6" = 1.47		
	1 1	Groundwater Sa	imple Collectio	n Information	n
тос		Sleeve Removal:	Date Removed	11-12	<u>-14</u>
Line to Surface		Sleeve Removal Post Low Flow S	Sample Collection?	Yes / No	
Ě		Sample Identification	i:	AA 14	
		Sample Personnel:	· · · · · · · · · · · · · · · · · · ·	MA	
Depth to Water		Sample Date:	1	1-12-19	
(ft btoc)					
		Sample Analysis	41112)		17/1
İ		Campie is: 10011	41112)	Sample Time:	1292
		Mark Strategie Killia to S	Preservative: HNC		Bottle Size: 250 ml
		Field Fitered & Type: Not Filtered)	For Lab Filtration	n: No
		QA/QC ID: FB - 01(2014)(12	2	Sample Time:	1341
		Sample ID: (5WM -) & (WU)		Sample Time:	1595
Top of Screen		COC: Dissolved Arsenic (6010C)	Preservative: HNC)3	Bottle Size: 250 ml
(ft btoc)		Field Fitered & Type: Yes 0.45 µm	1	For Lab Filtration	
(it bloc)	1	QA/QC ID: FB-0/(20/4)//2)	Sample Time:	1545
ł	Top of Hydrasleeve	Sample ID:	<u>r</u>	Sample Time:	T
Hydrasleeve	ft btoc	COC: Total Arsenic (7062)	Preservative: HNC)3 T	Bottle Size: 250 ml
12		Field Fitered & Type: Yes 0.45 µm		For Lab Filtration	n: No
į (i		QA/QC ID:		Sample Time:	
į 🖟		Sample ID:	- William	Sample Time:	
Weight		COC: Dissolved Arsenic (7062)	Preservative: HNC)3	Bottle Size: 250 mL
<u>,</u> _	L, İ	Field Fitered & Type: Yes 0.45 µm		For Lab Filtration	n: No
	Bottom of Weight	QA/QC ID:		Sample Time:	
1 4	ft btoc	Sample Notes:			
Bottom of Screen	TOC top of casing				
	btoc feet below top of casing				
Well leferred				Work The Control of the Control	
Well Information	\sim				
	Yes / No	Well Lo	cked at Departure:	Yes	/ No
Well Locked at Arrival:	DANGERS E. TRACCO		ocked at Departure: Well Completion:	Yes Yes	/ No nt / Stick Up

Project Number:	MH001026.000	2	Live	raSleeve Size:	1-like	. Glulpy-a	
Site:	2251 Armour R			(a 2 %)			
C00000000	MA	oad Site		ht Description:	1/11/14		
Sleeve Installed By:	0.11		 	Date Installed:	2840		
Weather:	(SC)			Fime Installed:	0900		
Casing Material:	PVC	Sch 40		Water Column:			
Casing Diameter:	21'n	ch		Gallons/Foot:			
Total Depth (btoc):	32	22		Gallons in Well:	_	W	
Well Casing Volume (Gallons/Foot)	s 1" = 0.04 1.25" = 0.06	1.5" = 0.09 2" = 0.16	2.5" = 0.26 3" = 0.37	3.5" = 0.5 4" = 0.65			
	1.1			Groundwater S	ample Collection	n Informatio	n
TOC	υ			Sleeve Removal:	Date Removed	11-12	1-14
	Line to Surface		Sleeve R	emoval Post Low Flow			
	Line		İ	Sample Identificatio	n:		
			1	Sample Personnel:	3 51 311	MA	
Depth to Water			1	Sample Date:	_11.	-12-14	
(ft btoc)							
(It bloc)			Sample Analysis	2 4			
			Sample ID: GW	M-25/2014	1112)	Sample Time:	0905
			COC: Total Arsenic	(6010C)	Preservative: HN	<u> </u>	Bottle Size: 250 m
			Field Fitered & Type	e: Not Filtered		For Lab Filtratio	on: No
			QA/QC ID:			Sample Time:	
			Sample ID: GW	M-25(2014	1)112)	Sample Time:	0905
Top of Screen			COC: Dissolved Ar	senic (6010C)	Preservative: HN0	D3	Bottle Size: 250 m
			Field Fitered & Type	e: Yes 0.45 µm		For Lab Filtratio	on: No
(ft btoc)	1 1		QA/QC ID:			Sample Time:	
į	Top	of Hydrasleeve	Sample ID:			Sample Time:	
Hydrasleeve		ft btoc	COC: Total Arsenic	(7062)	Preservative: HN0	03	Bottle Size: 250 m
	▲		Field Fitered & Type	e: Yes 0.45 um		For Lab Filtratio	on: No
ł			QA/QC ID:	o. 100 o. 10 pm	******	Sample Time:	110
- 1			Sample ID:			Sample Time:	
Weight I			COC: Dissolved Ars	senic (7062)	Preservative: HN0		Bottle Size: 250 m
Weight	Ti		Field Fitered & Type		i reservative. Tilve	For Lab Filtratio	
Ì	Botto	om of Weight	QA/QC ID:	о. тое стори		Sample Time:	110
ł		ft btoc	Sample Notes:				
Bottom of Screen (ft btoc)	TOC top of c	asing ow top of casing					
Well Information	n						
Well Locked at Arr		/ No		Well L	ocked at Departure:	(Yes)	/ No
					72		

ABOADIC		· /D		in ordered		Calma	-91
ARCADIS Hydr	asleeve Installat	ion/Removal an	d Sample i	-orm	We	11 ID: <u>GMW</u>	X
Project Number:	MH001026.0002		Hydra	aSleeve Size:	lun	۷	
Site:	2251 Armour Road S		Weigh	t Description:		*	
Sleeve Installed By:	MA	-		Pate Installed:		1	
Weather:	6			ime Installed:	0930		
Casing Material:	PVC			Water Column:			
Casing Diameter:	2 inch	Sch 40		Gallons/Foot:	3		- I - N
Total Depth (btoc):		to an		Gallons in Well:			
Well Casing Volume (Gallons/Foot)		1.5" = 0.09 2" = 0.16	2.5" = 0.26 3" = 0.37	3.5" = 0.56 4" = 0.65	0 6" =	1.47	
			ő	Groundwater Sa	ample Collec	ction Information	n
тос	0		77	Sleeve Removal:	Date Remov	- 0 0	-14
	Line to Surface		Sleeve Re	emoval Post Low Flow	Time Remov Sample Collectio		
	Li			Sample Identification	1:		
				Sample Personnel:	7	NVA-	4300
Depth to Water	_			Sample Date:	<u>, </u>	11-12-14	
(ft btoc)	\vee H						
		Samp	ole Analysis	0 \ 0)		9 (7)
				M-20/20141		Sample Time:	OZSO
			: Total Arsenic	1271 Labore 3	Preservative:	HNO3	Bottle Size: 250 mL
			Fitered & Type	: Not Filtered		For Lab Filtration	on: No
1			C ID:	M-20/2014	1112	Sample Time:	0850
			1	Carr		Sample Time:	
Top of Screen			: Dissolved Ars		Preservative:	HNO3	Bottle Size: 250 mL
(ft btoc)		11	Fitered & Type OC ID:	: Yes 0.45 μm		For Lab Filtration Sample Time:	on: No
				- 10 - 12 - 12 - 12 - 12 - 12 - 12 - 12			
Hydrasleeve !	I Top of Hy		ole ID: : Total Arsenic	(7062)	Preservative:	Sample Time:	Pottlo Sizo: 250 ml
Tiyulasieeve		- 9.9938-2.11-H2			Freservative.		Bottle Size: 250 mL
į	i i		Fitered & Type IC ID:	: Yes 0.45 μm		For Lab Filtration Sample Time:	on: No
į			ole ID:		1	Sample Time:	
Weight \	i i		: Dissolved Arse	ania (7062)	Description	= V4 (PA)= (1 =)	D-#I- Ci 050!
Weight	Ti	Tan Tan	17701	: Yes 0.45 µm	Preservative:	For Lab Filtration	Bottle Size: 250 mL on: No
Ĩ	Bottom of	Control of the Contro	C ID:	. 100 0.10 pm		Sample Time:	71.
į		_ft btoc Samp	ole Notes:			43.111111E	
			-				
Bottom of Screen (ft btoc)	TOC top of casing ft btoc feet below to					1	
						- Account - 1 - 1 - 1500 - 1550 MI	
Well Information		NI-					
Well Locked at Arr	100	No			ocked at Departu		/ No
Condition of Wel	1: GUDON	Mar V. I.	.h m. T	olego	Well Completion	n: Flush Mou	unt // Stick Up
BAND ON M	relianer en	no or	ILIN J	MY WY			

ARCADIS

Groundwater Sa	ampling Form				Well ID:	6n	M-2	13
Project Number: Site: Sampled By: Weather: Instrument Identific		E CANA	Sample Ide Sample Dat Sampling Ti Duplicate/Q	e: me:	Dry	M-2 11-14 1630 b MS	IMSD	13 141114) / EB
Instrument:			4SI SB - La Motte					
Serial #:								
Purging Information Casing Material: Casing Diameter: Total Depth (btoc): Depth to Water (btoc) Water Column:	PVC) / 21heh 99.49 19.20 80-8	9'	Volumes to be F	btoc) From: mp Depth: 'urged: urged:		То:	Gallon Gallon	ft btoc Liter Liter
Gallons/Foot: 0.16 Gallons in Well: 12.832			Pump Start Time:		8	Stop Time:		
Well Casing Volum Gallons/Foot	1" = 0.04 1.25" = 0.00	1.5" = 0.0 3 2" = 0.16			3.5" = 0.50 4" = 0.65		6" = 1.47	
Field Parameter Mo Minutes Elapsed 15	Rate (gpm or ml) Purged 200 O (600 200 Company Compa	ng Purging Depth to pH Water, (SIU 19.24' 6.7 19.24' 6.7 19.25' 6.7 19.25' 6.7 19.25' 6.7 19.25' 6.7 19.25' 6.7 19.25' 6.7 19.25' 6.7 19.25' 6.7 19.25' 6.7	7 1.129 8 1.110 8 1.109 8 1.109 8 1.104 3 0.989 7 0.988 7 0.989 7 0.989	Turbidity (NTUs) 1.94 1.78 1.41 1.36 1.31	Diss. Oxygen 4.62 1.24 0.98 0.97 0.94 0.93 0.90 0.89 0.91	14.16 14.24 14.24 14.23 (4.24 14.24 14.24	ORP (mV) -60.0 -59.8 -59.7 -59.4 -58.8 -58.8	Comments:
Constituent Arsenic - Total (601) Arsenic - Dissolved Well Information	0C)	From Lab		Container I shville		Pres Acid	ervative	
Well Locked at Arriv		/ No	Wel	Well Co	Departure:		/ No	,

* Bolto on well cover that, no lock on I-plug.

ARCADIS Hydr	asleeve Installation/Remov	al and Sample Form	Well ID:	Ghdpy-38
Project Number:	MH001026.0002	HydraSleeve Size:	1 Whe	
Site:	2251 Armour Road Site	Weight Description:		
	MA		11/11/1	4
Sleeve Installed By: _	W	Date Installed:	1020	
Weather:	U U	Time Installed:	1020	
Casing Material:	PC	Water Column:	_	
Casing Diameter:	- zuch	Gallons/Foot:	_	A Section 191
Total Depth (btoc):	32.09	Gallons in Well:	_	The state of the s
Well Casing Volumes (Gallons/Foot)	1.25" = 0.04 1.25" = 0.06 1.25" = 0.16	2.5" = 0.26 3.5" = 0. 3" = 0.37 4" = 0.65		
		Groundwater S	Sample Collection	n Information
TOC	ace	Sleeve Removal:	Date Removed	11-12-14
	ine to Surface	Sleeve Removal Post Low Flov	v Sample Collection?	Yes / No
	Line	Sample Identification	on:	14 (444)
1		Sample Personnel:	1/-	-12-14 (MA)
Depth to Water	_	Sample Date:	/	000
(ft btoc)	\checkmark			
(1. 5.00)		Sample Analysis	1/4445	
		Sample ID: GWM-3 & (20/1	141112)	Sample Time: 1006
1	11	COC: Total Arsenic (6010C)	Preservative: HNC	Bottle Size: 250 mL
		Field Fitered & Type: Not Filtered		For Lab Filtration: No
		QA/QC ID:	41110.)	Sample Time:
		Sample ID: GWM-36 (40)		Sample Time: 1003
Top of Screen		COC: Dissolved Arsenic (6010C)	Preservative: HNC	Bottle Size: 250 mL
	10	Field Fitered & Type: Yes 0.45 µm	1	For Lab Filtration: No
(ft btoc)		QA/QC ID:		Sample Time:
I I	Top of Hydrasleeve	Sample ID:	-	Sample Time:
Hydrasleeve	ft btoc	COC: Total Arsenic (7062)	Preservative: HNC	Bottle Size: 250 mL
7	▲	Field Fitered & Type: Yes 0.45 μm		For Lab Filtration: No
į		QA/QC ID:		Sample Time:
į	İ	Sample ID:		Sample Time:
Weight		COC: Dissolved Arsenic (7062)	Preservative: HNC	Bottle Size: 250 mL
	ΙŢΙ	Field Fitered & Type: Yes 0.45 µm		For Lab Filtration: No
ſ	Bottom of Weight	QA/QC ID:		Sample Time:
į	ft btoc	Sample Notes:		
L	TOO to a of a sales		10 TO STATE OF THE	
Bottom of Screen (ft btoc)	TOC top of casing ft btoc feet below top of casing			
Well Information				
Well Locked at Arr	<u> </u>	Well	Locked at Departure:	/ No
Condition of Wel	i joo	tur molule t	Well Completion:	Flush Mount / Stick Up
1 100000 0	n very over th	tack, no lock on J-p	neg. ma	

ARCADIS Hydr	aelaava Ine	tallation/Remo	val and Sample F	orm	Wo	11 ID: Gh	dm-3B	
_					لمنا ا هم	W 90	111 22	_
Project Number:	MH001026.00		100,000	Sleeve Size:	0 100			
Site:	2251 Armour	Road Site	Weight	t Description:	11/11/11/4			
Sleeve Installed By: _	MA	1	D	ate Installed:	11/11/1	8		
Weather:	100	A	Ti	me Installed:	0995	400-		
Casing Material:	PVC	,		Water Column:		100		
Casing Diameter:	&	inch		Gallons/Foot:				
Total Depth (btoc):	Se	h 40		Gallons in Well:				
Well Casing Volumes (Gallons/Foot)	1" = 0.04 1.25" = 0.06	1.5" = 0.09 2" = 0.16	2.5" = 0.26 3" = 0.37	3.5" = 0.5 4" = 0.65	6" =	1.47		
				Groundwater Sa	ample Colle	ction Infor	mation	
тос	9			Sleeve Removal:	Date Remov		1-12-14	
	Line to Surface		Sleeve Re	moval Post Low Flow	Sample Collection	on? Yes	/ No	
1	Line			Sample Identification	n:			
1				Sample Personnel:	·	MA		
Depth to Water			3	Sample Date:		es 11/1	2/14	
(ft btoc)								
(It bloc)			Sample Analysis					
			Sample ID: GW	VI-30/2014	1112)	Sample	Time: 6930	
ı			COC: Total Arsenic ((6010C)	Preservative:	HNO3	Bottle Size:	250 mL
			Field Fitered & Type	: Not Filtered		For Lab	Filtration: No	
			QA/QC ID:			Sample	Time:	
			Sample ID: GW	M3B(2014	(1112)	Sample	Time: 0930	
Top of Screen			COC: Dissolved Arse	enic (6010C)	Preservative:	HNO3	Bottle Size:	250 mL
			Field Fitered & Type	No.			Filtration: No	
(ft btoc)			QA/QC ID:			Sample	Time:	
į	i To	o of Hydrasleeve	Sample ID:			Sample	Time:	
Hydrasleeve		ft btoc	COC: Total Arsenic ((7062)	Preservative:	HNO3	Bottle Size:	250 mL
	A		Field Fitered & Type	. Ves 0.45 um	100	For Lah	Filtration: No	//
ł			QA/QC ID:	. 100 0.40 µm		Sample		
ł			Sample ID:			Sample		
Weight			COC: Dissolved Arse	anic (7062)	Preservative:	HNO3	Bottle Size:	250 ml
Weight	T !		Field Fitered & Type	***************************************	Trieservative.		Filtration: No	230 IIIL
Ì	Во	ttom of Weight	QA/QC ID:	. 100 0.10 pm		Sample		
į	i	ft btoc	Sample Notes:		***************************************			
						V. W		
Bottom of Screen (ft btoc)	TOC top of	casing elow top of casing						
(11 0100)	it bloc feet b	ciow top or caomig						
Well Information	1				Nile Train			
Well Locked at Arr	ival: Yes	/ No		Well L	ocked at Departu	ıre:	es / N	.0
Condition of Wel	1: Good				Well Completion	on: Flu	sh Mount / Stick U	р
A BOU	to ion	well con	er Gutact,	no lock o	n J-p	lug. 1	1A	

Project Number:	MH001026.0002	HydraSleeve Size:	llihre	
Site:	2251 Armour Road Site	Weight Description:		
Sleeve Installed By:	MA	Date Installed:	11/11/19	
Weather:	Cold	Time Installed:	. ' _ '	
Casing Material:	PVC	Water Column:		
Casing Diameter:	Zinch	Gallons/Foot:	_	
Total Depth (btoc):	52.04'	Gallons in Well:	_	
Well Casing Volumes (Gallons/Foot)	1" = 0.04	2.5" = 0.26 3.5" = 0.65 3" = 0.37 4" = 0.65		
	1 1	Groundwater S	Sample Collectio	n Information
TOC		Sleeve Removal:	Date Removed	11-12-14
	ψ	Sieeve Kellioval.	Time Removed	0945
	Surface	Sleeve Removal Post Low Flow		Yes / No
	s ot			100 / 110
	Line to	Sample Identificatio	on:	2 AAA
1		Sample Personnel:	-,0	745 MA
Depth to Water	_	Sample Date:	_11-	12-19
(ft btoc)	4-1	K Comments		
()		Sample Analysis		2011
		Sample ID: 6WM-3D(2014	1112)	Sample Time: 0 94
		COC: Total Arsenic (6010C)	Preservative: HNC	
1		Field Fitered & Type: Not Filtered		For Lab Filtration: No
		QA/QC ID:	111159	Sample Time:
		Sample ID: SWM-3D(2014	1119	Sample Time: 09 V3
Top of Screen		COC: Dissolved Arsenic (6010C)	Preservative: HNC	D3 Bottle Size: 2
(ft btoc)		Field Fitered & Type: Yes 0.45 μm		For Lab Filtration: No
į	1 1	QA/QC ID:		Sample Time:
į	Top of Hydrasle	100 Maria 100 Ma		Sample Time:
Hydrasleeve	ft btoo	COC: Total Arsenic (7062)	Preservative: HNC	D3 Bottle Size: 2
		Field Fitered & Type: Yes 0.45 µm		For Lab Filtration: No
1		QA/QC ID:		Sample Time:
1		Sample ID:	T	Sample Time:
Weight		COC: Dissolved Arsenic (7062)	Preservative: HNC	D3 Bottle Size: 2
1	占!	Field Fitered & Type: Yes 0.45 μm		For Lab Filtration: No
į	Bottom of Weigl	QA/QC ID:		Sample Time:
į	ft btoo	Sample Notes:		
	TOC top of casing			
Bottom of Screen	ft btoc feet below top of ca	ng		
Bottom of Screen (ft btoc)				
				(ELS)
(ft btoc)	al: (Ye s / No	Well L	Locked at Departure:	Yes / No

Deale at Niverb	MI 1004000 0000	1 1	GWM-48
Project Number:	MH001026.0002	HydraSleeve Size:	
Site: _	2251 Armour Road Site	Weight Description: Date Installed:	
Sleeve Installed By: _	MA	1211	
Veather:		Time Installed:) 3 45	
Casing Material:	NC	Water Column:	
Casing Diameter:	- Zinler	Gallons/Foot:	-
otal Depth (btoc):	30.92	Gallons in Well:	
Vell Casing Volumes (Gallons/Foot)	1" = 0.04 1.25" = 0.06 1.25" = 0.16	2.5" = 0.26 3.5" = 0.50 6" = 1.47 3" = 0.37 4" = 0.65	
	1. 1.	Groundwater Sample Collection I	nformation
тос	Line to Surface	Sleeve Removal: Date Removed Time Removed Sleeve Removal Post Low Flow Sample Collection? Y	11-12-14 1430
	15 S	Sieeve Nemovai i ost Low How Sample Collection:	es / NO
- 1	Line	Sample Identification:	•
- 1		Sample Personnel:	/
Depth to Water		Sample Date:	2-14
(ft btoc)			
(11 5150)		Sample Analysis	
		Sample ID: GWM - 45 (20/41112) Sa	mple Time: /436
,,	11	COC: Total Arsenic (6010C) Preservative: HNO3	Bottle Size: 250
- 1	*	Field Fitered & Type: Not Filtered For	r Lab Filtration: No
- 1		QA/QC ID: Sa	mple Time:
l	11	Sample ID: (WM ' 9 8 (W 9 9 1/1 / 2) Sa	mple Time: 1430
Top of Screen	11	COC: Dissolved Arsenic (6010C) Preservative: HNO3	Bottle Size: 250
	1!	Field Fitered & Type: Yes 0.45 µm For	Lab Filtration: No
(ft btoc)		/ A	mple Time:
}	Top of Hydrasleeve	Sample ID: GWM- 45 (20 / 9/1/2) Sa	mple Time: 1430
Hydrasleeve	ft btoc	COC: Total Arsenic (7062) Preservative: HNO3	Bottle Size: 250 r
7	\	Field Fitered & Type: Yes, 0.45 µm For	Lab Filtration: No
į	İ	QA/QC ID: FB-02 (20141112) Sa	mple Time: 1430
į		Sample ID: GWM-41 (2019412) Sa	mple Time: 1430
Weight		COC: Dissolved Arsenic (7062) Preservative: HNO3	Bottle Size: 250 r
		Field Fitered & Type: Yes 0.45 µm For	Lab Filtration: No
ł	Bottom of Weight	QA/QC ID: FB-02/2014112 Sa	mple Time: 1930
	ft btoc	Sample Notes:	
Bottom of Screen	TOC top of casing		
(ft btoc)	ft btoc feet below top of casing		
		The section of the se	A SOUTH OF THE STATE OF THE STA
Well Information Well Locked at Arri	-//	Well Locked at Departure:	(Yes / No
Condition of Well		Inland, no lock on T-plug. m	Flush Mount / Stick Up

Project Number:	MH001026.0002	HydraSleeve Size:	
Site:	2251 Armour Road Site	Weight Description:	
Sleeve Installed By:	MA	Date Installed: - / - / 4	
Weather:	100	Time Installed: 1355	
	Diste		
Casing Material:	2011	Water Column:	
Casing Diameter:	Flip	Gallons/Foot:	
Total Depth (btoc):	51.10	Gallons in Well:	
Well Casing Volumes (Gallons/Foot)	1" = 0.04 1.25" = 0.06 1.25" = 0.06 2" = 0.16	2.5" = 0.26 3.5" = 0.50 6" = 1.47 3" = 0.37 4" = 0.65	
-	1 1	Groundwater Sample Collection Information	tion
тос	23	Sleeve Removal: Date Removed	12-14
	Line to Surface		No
	Ĕ	Sample Identification:	
		Sample Personnel:	
Depth to Water	_	Sample Date:	9
(ft btoc)	4		/
(11222)		Sample Analysis	11010:-
		Sample ID: GWM-4D (do)4///2) Sample Time	e: 1425
		COC: Total Ársenic (6010C) Preservative: HNO3	Bottle Size:
		Field Fitered & Type: Not Filtered For Lab Filtra	ation: No
		QA/QC ID: Sample Time	11/44
		Sample ID: GMM - 41 (20) (Sample Time	3: / TU
Top of Screen		COC: Dissolved Arsenic (6010C) Preservative: HNO3	Bottle Size:
(ft btoc)	1 !	Field Fitered & Type: Yes 0.45 µm For Lab Filtra	THE STATE OF THE S
(11 5100)	1 !	QA/QC ID: Sample Time	
į.	Top of Hydrasleev	Sample ID: GWM-40 (20141112) Sample Time	· 1445
Hydrasleeve	ft btoc	COC: Total Arsenic (7062) Preservative: HNO3	Bottle Size:
1		Field Fitered & Type: Yes 0.45 µm For Lab Filtra	ation: No
į		QA/QC ID: Sample Time	
į	i i	Sample ID: GWM-40(204/112) Sample Time	e: 1445
Weight		COC: Dissolved Arsenic (7062) Preservative: HNO3	Bottle Size:
	工丨	Field Fitered & Type: Yes 0.45 µm For Lab Filtra	ation: No
ſ	Bottom of Weight	QA/QC ID: Sample Time	ə:
į	ft btoc	Sample Notes:	
L			
Bottom of Screen (ft btoc)	TOC top of casing ft btoc feet below top of cas	ng	
Well Information			40
Well Locked at Arriv		Well Locked at Departure:	/ N
Condition of Well	grood	well Completion: Flush N where the state of J-plug. MA	/ount) / Stick U

	ARCADIS Hydi	rasleeve Installation/Remov	ral and Sample Form	Well ID:	900 M-53
	Project Number:	MH001026.0002	HydraSleeve Size:	1 Letre	,
	Site:	2251 Armour Road Site	Weight Description:	, ,,,,,	
	Sleeve Installed By:	MA	Date Installed:	11-11-	14
	Weather:	1819	Time Installed:	1320	
	· · · · · · · · · · · · · · · · · · ·	A/r			
	Casing Material:	2001	Water Column:	_	
	Casing Diameter:	nul	Gallons/Foot:	<u>~</u>	
	Total Depth (btoc):	<u> </u>	Gallons in Well:	-	
	Well Casing Volume (Gallons/Foot)	es 1" = 0.04 1.5" = 0.09 1.25" = 0.06 2" = 0.16	2.5" = 0.26 3.5" = 0.50 3" = 0.37 4" = 0.65		
		1 1 1	Groundwater Sa	ample Collectio	n Information
	тос		Ol David	D-1- D	11-12-14
		υ	Sleeve Removal:	Date Removed Time Removed	14/0
		Line to Surface	Sleeve Removal Post Low Flow S		Yes / No
		t ot o		85	
		Lin Lin	Sample Identification	:	
			Sample Personnel:	The state of the s	
	Depth to Water		Sample Date:	Anna de la constante de la con	
	(ft btoc)		Sample Analysis		
			Sample ID: 6WM-58/2011	4/112)	Sample Time: 1400
			COC: Total Arsenic (6010C)	Preservative: HNC	
			Field Fitered & Type: Not Filtered		For Lab Filtration: No
			QA/QC ID:		Sample Time:
			Sample ID: GWM - S & (20)	41112)	Sample Time: 1400
	Top of Screen		COC: Dissolved Arsenic (6010C)	Preservative: HNC	D3 Bottle Size: 250 mL
			Field Fitered & Type: Yes 0.45 µm		For Lab Filtration: No
	(ft btoc)		QA/QC ID:		Sample Time:
		Top of Hydrasleeve	Sample ID: GWM-JS (AD)	11117	Sample Time: 1400
	Hydrasleeve	ft btoc	COC: Total Ársenic (7062)	Preservative: HNC	D3 Bottle Size: 250 mL
			Field Fitered & Type: Yes 0.45 µm		For Lab Filtration: No
			QA/QC ID:	0/////	Sample Time:
		I	Sample ID: SWM-SJ (20	191112)	Sample Time: 1400
	Weight		COC: Dissolved Arsenic (7062)	Preservative: HNC	AND CANADA THE THE THE THE THE THE THE THE THE THE
		Bottom of Weight	Field Fitered & Type: Yes 0.45 µm QA/QC ID:	**************************************	For Lab Filtration: No Sample Time:
		ft btoc	Sample Notes:		
	101 (2)		2 = = 0 - 0 - 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
	Bottom of Screen (ft btoc)	TOC top of casing ft btoc feet below top of casing			100
	W				
	Well Information Well Locked at Ar		Well Lo	ocked at Departure:	Yes / No
.1	Condition of We	ell: a pod		Well Completion:	Flush Mount / Stick Up
*	holt on	with come onta	ct, no lock on J-ph	ug. 11/L	
	900-000		1	J. MA	

Project Number:	MH001026.000)2	HvdraSlee	eve Size:	1-litre	GWM-	
Site:	2251 Armour R		Weight Des				
Sleeve Installed By:	MA	load Oile		Installed:	1-11-14		
Weather:	(d\d)		10000	Installed:	1321		
vveatner	An /	^^		ristalleu.	2-3		
Casing Material:			Wate	er Column:			×
Casing Diameter:	<u>9-1</u>	ruh.	Gallo	ons/Foot:	9-		
Total Depth (btoc):	<u> </u>	37'	Gallo	ons in Well:	h 		
Well Casing Volumes (Gallons/Foot)	1" = 0.04 1.25" = 0.06	1.5" = 0.09 2" = 0.16	2.5" = 0.26 3" = 0.37	3.5" = 0.50 4" = 0.65	6" = 1.47	33-4-5)	
	1 1		Gro	oundwater Sa	mple Collectio	n Informatio	n
TOC	Φ		Slee	ve Removal:	Date Removed	11-12-1	<u>'</u>
	Line to Surface		Sleeve Remov	al Post Low Flow S	Sample Collection?	Yes / No	
	Line		Sam	ple Identification:	9	0	
			Sam	ple Personnel:		UH	
Depth to Water			Sam	ple Date:	_1)-	-12-14	12 21 1211794//
(ft btoc)	7				·	are a series in terminal	
(it bloc)			Sample Analysis	~	14.44.5		
			Sample ID: GWM-	S D(201	(1/12)	Sample Time:	14/5
			COC: Total Arsenic (601	0C)	Preservative: HNC)3	Bottle Size: 25
			Field Fitered & Type:	Not Filtered		For Lab Filtration	on: No
			QA/QC ID:			Sample Time:	
			Sample ID: 6WM .	J D (201	4(1/2)	Sample Time:	1415
Top of Screen			COC: Dissolved Arsenic	(6010C)	Preservative: HNC)3	Bottle Size: 25
			Field Fitered & Type:	Yes 0.45 μm		For Lab Filtratio	on: No
(ft btoc)			QA/QC ID:		1	Sample Time:	-1.
į	Тор	of Hydrasleeve	Sample ID: 6 WM	1-50/2	0/4/1/2)	Sample Time:	140-
Hydrasleeve		ft btoc	COC: Total Arsenic (706	2)	Preservative: HNC)3	Bottle Size: 25
*			Field Fitered & Type:	Yes 0.45 um		For Lab Filtration	on: No
			QA/QC ID:	703 0.40 µm		Sample Time:	NO
1			Sample ID: 6MM	-50 K	70/4//12)	Sample Time:	144
Weight			COC: Dissolved Arsenic	(-	Preservative: HNC		Bottle Size: 25
Violgill	Τį		Field Fitered & Type:		, logoryalive. Time	For Lab Filtration	*
1	Bott	om of Weight	QA/QC ID:	. 20 0.10 ри	MATERIAL STATE OF THE STATE OF	Sample Time:	
		ft btoc	Sample Notes:		- met		W. C. 100
						900	2 22 22
Bottom of Screen (ft btoc)	TOC top of of the total fit bloc feet be	casing low top of casing					Maria de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la co
Well Information			II II SOLOMOODO AANA	4' 895 D. 360 - TOO			200000000000000000000000000000000000000
Well Locked at Arriv	al: (Yes)	/ No	V COMMON ONL - COMM	Well Lo	cked at Departure:	Yes	/ No
Condition of Well:	and				Well Completion:	Flush Mou	nt / Stick Up

Project Number:	MH001026.0002			HydraSleeve Size) :		1-1	Im		
Site:	2251 Armour Roa	nd Site		Veight Description		4:	,			
Sleeve Installed By:	MA			Date Installed	20		11-1	1-14	(*	
Weather:	rala	#W - XX		Time Installed			1230			
- veatrier.	DAC C			Time matanec			100			
Casing Material:	770	•		Water Colur	nn:			1944	-180-2	
Casing Diameter:	mil	<u>, </u>		Gallons/Foo	t:			8=	NA-Y	
Гotal Depth (btoc):		.1		Gallons in V	/ell:			is 		
Well Casing Volume (Gallons/Foot)	1" = 0.04 1.25" = 0.06	1.5" = 0.09 2" = 0.16	2.5" = 0 3" = 0.3	7	3.5" = 0.65 4" = 0.65	5		' = 1.47		
-	1.1			Groundv	vater S	amp	le Coll	ectio	n Informatio	n
тос	Φ			Sleeve Rem	noval:		Date Rem		11-12	- 14
	Line to Surface		Slee	ve Removal Post	Low Flow		ime Rem ble Collec		Yes / No))
	Line			Sample Ide	ntificatio	n:				
				Sample Pers	sonnel:		<u>~</u>	N	VA	
Depth to Water	11			Sample Date	e :			11-	12-14	10
	∇									
(ft btoc)	11		Sample Analys	is	10					
	11		Sample ID:	3WM-6.5	(20	41	112)		Sample Time:	1220
			COC: Total Ars	enic (6010C)		Pres	servative	HNC	3	Bottle Size:
	1 1		Field Fitered &	Type: Not Filte	red				For Lab Filtration	on: No
	1 1		QA/QC ID:			- Anna 1100			Sample Time:	
			Sample ID: (JWM-6.21	201	411	12)		Sample Time:	1220
Top of Screen	1.1		COC: Dissolve	r d Arsenic (6010C)	Pres	ervative:	HNC	3	Bottle Size:
			Field Fitered &	Type: Yes 0.4	45 µm				For Lab Filtration	on: No
(ft btoc)	1 1		QA/QC ID:	CONTROL 2 1/4 1 2 1/2 144 2/25 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					Sample Time:	
ĺ	Top of	Hydrasleeve	Sample ID:	JWM68 (20/4	1112	-)		Sample Time:	12900
Hydrasleeve	<u> </u>	ft btoc	COC: Total Ars	enic (7062)		Pres	/ servative:	HNC	3	Bottle Size:
	▲		Field Fitered &	Type: Yes 0.4	1 5 սm				For Lab Filtration	on: No
į			QA/QC ID:					240	Sample Time:	277
ł			Sample ID:	SWM-65	(201	4111	2)		Sample Time:	1220
Weight \			COC: Dissolve	d Arsenic (7062)		Pres	ervative:	HNC	3	Bottle Size:
1	T			Type: Yes 0.4	45 μm	j. 100	or rativo.		For Lab Filtration	
ĵ	Bottom	of Weight	QA/QC ID:				= 101		Sample Time:	
į		ft btoc	Sample Notes:							
					y.				3.100	
Bottom of Screen (ft btoc)	TOC top of cas ft btoc feet below		L							32
Service in the service of the servic		,					3200			
Well Information		officers.			-7					x_400 109=0
Well Locked at Arr		No			Well L	ocked	at Depa	rture:	Yes	/ N
Condition of Wel	1: 91000		et, no			Well	Comple	tion:	Flush Mou	nt / Stick U

ARCADIS Hydi	rasleeve Installation/Remo	val and Sample Form well i	D: GWM-8D
Project Number:	MH001026.0002	HydraSleeve Size: 1 - Whe	,
Site:	2251 Armour Road Site	Weight Description:	
Sleeve Installed By:	MA	Date Installed: 11-/(-/9	
Weather:	100	Time Installed:	
	DA/I	977E 270 IR	
Casing Material:	2,huh	Water Column:	
Casing Diameter:	40 90'	Gallons/Foot:	F37_320
Total Depth (btoc):		Gallons in Well:	
Well Casing Volume (Gallons/Foot)	1" = 0.04 1.25" = 0.06 2" = 0.16	2.5" = 0.26 3.5" = 0.50 6" = 1.4 3" = 0.37 4" = 0.65	
The state of the s	1 1 1	Groundwater Sample Collecti	
TOC		Sleeve Removal: Date Removed	11-13-14
	g	Time Removed	1222
	Line to Surface	Sleeve Removal Post Low Flow Sample Collection?	4 10 40 90 NOON
	ot s		
	Fine	Sample Identification:	- A A
		Sample Personnel:	NUH
Depth to Water		Sample Date:	11-13-09
(ft btoc)		Somela Analysis	
5.		Sample ID: 6wm-BD(20141113)	Sample Time: /330
			Sample Time: / 590 NO3 Bottle Size: 250 mL
		Field Fitered & Type: Not Filtered	For Lab Filtration: No
	*	QA/QC ID: F3-03(20141113)	Sample Time: 1400
		Sample ID: 6WM-8D/20/4/113	Sample Time: 1330
Top of Screen		COC: Dissolved Arsenic (6010C) Preservative: HI	NO3 Bottle Size: 250 mL
Top of Screen		Field Fitered & Type: Yes 0.45 µm	For Lab Filtration: No
(ft btoc)		QA/QC ID: FB-03 (20/41/13)	Sample Time: 1900
	Top of Hydrasleeve	Sample ID:	Sample Time:
Hydrasleeve	ft btoc		NO3 Bottle Size: 250 mL
	 	Field Fitered & Type: Yes 0.45 µm	For Lab Filtration: No
		QA/QC ID:	Sample Time:
		Sample ID:	Sample Time:
Weight		COC: Dissolved Arsenic (7062) Preservative: HI	NO3 Bottle Size: 250 mL
	L, L, İ	Field Fitered & Type: Yes 0.45 µm	For Lab Filtration: No
i	Bottom of Weight	QA/QC ID:	Sample Time:
10	ft btoc	Sample Notes:	
Bottom of Screen	TOC top of casing		
(ft btoc)	ft btoc feet below top of casing	E .	
Well Informatio	n -		
Well Locked at Ar	- 17	Well Locked at Departure	Yes / No
Condition of We	11: 900 d	Well Completion	Flush Mount / Stick Up
A Delta	on well cover	Intact, no lock on J-phy	
THE POUR (M MON MACI	, we want of Japany	· With

ARCA	DIS										
Ground	dwater S	Samplin	g Form					Well ID	: 91	MW -	3B
Project N	lumber:	KC001	649.0001			Sample Ide	ntification	6	gwm-	83(2	0141117
Site:		2251 A	rmour Ro	ad Site		Sample Dat	e:	ş 	11-	11-74	
Sampled	By:		NA			Sampling Ti	ime:		170	0	
Weather	:		1d, u	omdi		Duplicate/Q	A/QC:	Dup	/Ms	MSD	EB
Instrume	ent Identif	ication	edu pur	_	,			W			
Instr	ument:			Water Quality	Meter		YSI	1	Motter Quality	Meter C	
Ser	rial #:										
Purging	Informati	on /	9							Adams.	
Casing N	/laterial:	(P)	<i>IC) 1</i>	SS	Purg	ge Method:(circle	one) (Subme	ersible Bla	dder Bailer	Peristal	tic
Casing D	Diameter:		2 inch		We	ell Screen (ft	btoc) From:		_ To:		
Total De	pth (btoc):		107.6			Pu	ımp Depth:				ft btoc
Depth to	Water (bto	oc):	22	.28	Vol	umes to be F	ourged:	9		Gallon	/ Liter
Water Co	olumn:		85.38	<u> </u>	Tot	al Volume Pเ	urged:			Gallon	/ Liter
Gallons/l	Foot:		0.16		Pum	p Start Time:			Stop Time:		
Gallons i	n Well:	13	.661								
	sing Volur	nes	1" = 0.04		.5" = 0.09	2.5" = 0.26		3.5" = 0.50		6" = 1.47	
Gallons/Fo		leasurem	1.25" = 0.0 ents Duri	ng Purgin	" = 0.16 m	3" = 0.37		4" = 0.65			
7,0,0,1	Minutes	Rate	Volume	Depth to	pH	Conductivity	Turbidity	Diss.	Temp	ORP	Comments:
Time	Elapsed	(gpm or ml)		Water	(SI Units)	(µmhos/cm)	(NTUs)	Oxygen	(°C or °F)	(mV)	
1620	2	200	1000	02.28	6.56	1.417	4.62	3.84	15.46	-110.6	
1630	10		2000		6.56	1.411	2.20	3.41	15.49		
16.35	15		3000	22.29	6.53	1.409	2.08	2.26	15.62		
1640	10		4000	22.29	6.53	1.408	1.84	0.98	15.67	108.4	
1645	5		5000	1	6.53	1.410	1.78	0.87	15.67	108.2	
1600	30		6000		6.53	1,410		0.86	15.66 .	107-4	
1655	35		7000		6.53	1.410	11/	0.86		107.5	
1700	40		Boro	W	653	1.410	V	0.86	15.68 -	107.4	
<u> </u>				<u> </u>				<u> </u>			
							Container	Description			
(Constituen	ts Sample	ed	From Lal	bTes	stAmerica-Na				servative	
Arsenic -	Total (60°	10C)		2	50 mL Plas	stic		Nitri	ic Acid		
Arsenic -	Dissolved	(6010C)		2	50 mL Plas	stic		Non	ie		
L			S								
Well Inf	ormation	1									
Well Loc	ked at Arri	val:	Yes	/ N	О	We	II Locked at	Departure	Yes	/ No)

Condition of Well: Joseph Well Completion: Flush Mount / Stick Up

**Bollo on well cover Sheart, no bock on J-phy. MA

ARCADIS Hydr	asleeve Installation/Remo	val and Sample Form	Well ID:	GWM-9D
Project Number:	MH001026.0002	HydraSleeve Size:	1-line	
Site:	2251 Armour Road Site	Weight Description:		
Sleeve Installed By:	MA	Date Installed:	11-11-11	9
Weather:	100		1100	1
vveatner.		Time Installed:	7100	and the second s
Casing Material:	<u>wc</u>	Water Column:	_	
Casing Diameter:	nuli	Gallons/Foot:	_	
Total Depth (btoc):	40.40	Gallons in Well:	-	
Well Casing Volume (Gallons/Foot)	S 1" = 0.04 1.5" = 0.09 1.25" = 0.06 2" = 0.16	2.5" = 0.26 3.5" = 0. 3" = 0.37 4" = 0.63		
	T I	Groundwater S	Sample Collection	n Information
тос	face	Sleeve Removal:	Date Removed Time Removed	11-12-14
	Line to Surface	Sleeve Removal Post Low Flov	w Sample Collection?	Yes / No
	Ë	Sample Identification	on:	11
50-T0 000 000 000		Sample Personnel:		ηH
Depth to Water		Sample Date:		1-12-19
(ft btoc)		Sample Analysis		
		0. 100 00 00	VII 122)	Sample Time: 1000
-		Sample ID: 9WW-9D/30/0	Preservative: HNC	NA A
		Field Fitered & Type: Not Filtered	Preservative. HIVO	For Lab Filtration: No
×		QA/QC ID:		Sample Time:
		Sample ID: GWM-9D/2019	11/12)	Sample Time: 1012
Top of Screen		COC: Dissolved Arsenic (6010C)	Preservative: HNC	
rop of Screen		Field Fitered & Type: Yes 0.45 µm	Trieservative. Hive	For Lab Filtration: No
(ft btoc)		QA/QC ID:	- Very	Sample Time:
į	Top of Hydrasleeve	Sample ID:		Sample Time:
Hydrasleeve	ft btoc	COC: Total Arsenic (7062)	Preservative: HNC	77. 7. 18. 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19
	*	Field Fitered & Type: Yes 0.45 µm		For Lab Filtration: No
ł	 	QA/QC ID:		Sample Time:
ł	l	Sample ID:		Sample Time:
Weight I		COC: Dissolved Arsenic (7062)	Preservative: HNC	D3 Bottle Size: 250 mL
1	.T¦	Field Fitered & Type: Yes 0.45 μm	1	For Lab Filtration: No
ĺ	Bottom of Weight	QA/QC ID:		Sample Time:
į	ft btoc	Sample Notes:		
Bottom of Screen	TOC top of casing			
(ft btoc)	ft btoc feet below top of casing			7.00
Well Information Well Locked at Arr		Mall	Locked at Departure:	(es) / No
		vveiri		
Condition of Wel	1: 900 0	and on the L	Well Completion:	Flush Mount / Stick Up
1 500	D ON MEN CO	ver guracy, no loc	in on J-	pmg.

ARCADIS Hydr	rasleeve Installation/Remov	al and Sample Form	Well ID:	GWM-9B
Project Number:	MH001026.0002	HydraSleeve Size:	1-11/2	v.
Site:	2251 Armour Road Site	Weight Description:	(001.	
Sleeve Installed By:	MA		11-11-	14
HAROTE VALUE OF ADADOSTO DATE OF A	Cold	Date Installed:	1105	
Weather:	0.7	Time Installed:	1103	
Casing Material:	PVC	Water Column:	<u>-</u>	
Casing Diameter:	Zuch	Gallons/Foot:	_	
Total Depth (btoc):	111.56	Gallons in Well:	-	
Well Casing Volume (Gallons/Foot)	1" = 0.04 1.25" = 0.06 1.25" = 0.06 2" = 0.16	2.5" = 0.26 3.5" = 0. 3" = 0.37 4" = 0.68		0
	T 1	Groundwater S	Sample Collectio	n Information
тос	ace	Sleeve Removal:	Date Removed	11-12-14
	ine to Surface	Sleeve Removal Post Low Flov	v Sample Collection?	Yes / No
	, Frince	Sample Identification	on:	4.4
		Sample Personnel:		14
Depth to Water		Sample Date:		-12-19
(ft btoc)	<u> </u>			
100		Sample Analysis	141115	11/4
		Sample ID: GWM - 913 (20)	T./	Sample Time: /// O
		COC: Total Arsenic (6010C)	Preservative: HNC	
		Field Fitered & Type: Not Filtered		
		QA/QC ID: Sample ID: GWM -9B/d 0	(עווועו	Sample Time: ///O
			(11)	177
Top of Screen		COC: Dissolved Arsenic (6010C)	Preservative: HNC	Petro Vinta de Propinso de Companyo de Com
(ft btoc)	l l	Field Fitered & Type: Yes 0.45 μm QA/QC ID:	312-4	For Lab Filtration: No Sample Time:
Hydrasleeve	Top of Hydrasleeve	Sample ID: COC: Total Arsenic (7062)	Preservative: HNC	Sample Time: Bottle Size: 250 mL
	i —— II bloc		prieservative. Trive	
į		Field Fitered & Type: Yes 0.45 µm QA/QC ID:		For Lab Filtration: No Sample Time:
į	i i	Sample ID:		Sample Time:
Weight	i i	COC: Dissolved Arsenic (7062) Field Fitered & Type: Yes 0.45 µm	Preservative: HNC	Bottle Size: 250 mL For Lab Filtration: No
]	Bottom of Weight	QA/QC ID:		Sample Time:
ļ	ft btoc	Sample Notes:		
				2000
Bottom of Screen (ft btoc)	TOC top of casing ft btoc feet below top of casing			
Description will add to the own		Webser (married to the control of th		V NO - WAY TO SHE
Well Information				
Well Locked at An		Well	Locked at Departure:	Yes / No
Condition of We	II: 9000	2 t t	Well Completion:	Flush Mount / Stick Up
* BOVA	on well core	entact, no lock	on J-phi	g. MA

Project Number:	MH001026.0002	HydraSleeve Size:	1-Whe	
Site:	2251 Armour Road Site	Weight Description:		
Sleeve Installed By:	MA	Date Installed:	11-11-10	1
Weather:	100	Time Installed:	1035	· · · · · · · · · · · · · · · · · · ·
_	0.46		7-00	
Casing Material:	770	Water Column:	1	
Casing Diameter:	mul.	Gallons/Foot:		
Total Depth (btoc):	17.96	Gallons in Well:	o <u>—</u>	
Well Casing Volumes (Gallons/Foot)	1" = 0.04 1.25" = 0.06 1.25" = 0.16	2.5" = 0.26 3.5" = 0.50 3" = 0.37 4" = 0.65	6" = 1.47	
	1 1	Groundwater San	nple Collection	n Information
TOC				11-19-14
		Sleeve Removal:	Date Removed	11-12-1
	Inface	Sleeve Removal Post Low Flow Sa	Time Removed	
	Line to Surface	Sieeve Removal Post Low Flow Sa	ample Collection?	Yes / No
	Line	Sample Identification:		
		Sample Personnel:	W.	A
Depth to Water		Sample Date:	11-	-12-14
	egt			
(ft btoc)		Sample Analysis		
		Sample ID: GWM-11B ROLL	11112)	Sample Time: 101
1			Preservative: HNC	
		Field Fitered & Type: Not Filtered		For Lab Filtration: No
- 1		QA/QC ID:		Sample Time:
		Sample ID: GWM - 11B (2014	1112)	Sample Time: 1015
T(0			· · · · · · · · · · · · · · · · · · ·	3.00
Top of Screen			Preservative: HNC	A STATE OF THE CONTRACTOR PARKS THE STATE OF
(ft btoc)		Field Fitered & Type: Yes 0.45 μm QA/QC ID:	With the Berthale of the State	For Lab Filtration: No Sample Time:
1				-
	Top of Hydrasleeve	Sample ID:		Sample Time:
Hydrasleeve	ft btoc	COC: Total Arsenic (7062)	Preservative: HNC	Bottle Size: 25
i i		Field Fitered & Type: Yes 0.45 µm		For Lab Filtration: No
i		QA/QC ID:	M-2000	Sample Time:
1		Sample ID:		Sample Time:
Weight		COC: Dissolved Arsenic (7062)	Preservative: HNC	D3 Bottle Size: 2
· i	<u></u>	Field Fitered & Type: Yes 0.45 µm		For Lab Filtration: No
į	Bottom of Weight	QA/QC ID:	ON THE RESERVE OF THE SECOND	Sample Time:
÷	ft btoc	Sample Notes:		
250	TOC top of casing	SANSAN OLI TANA ISLAM AL LA SANS	****	
Bottom of Screen	ft btoc feet below top of casing			
Bottom of Screen (ft btoc)				
(ft btoc)	patricological delicological d			
		Well Loc	ked at Departure:	(es) / No

Project Number:	MH001	026.0002	HydraSleeve Siz	:e:	1- Um	L	
Site:		rmour Road Site	Weight Descriptio	1.	NAME OF THE PARTY	18 18 18 18 18 18 18 18 18 18 18 18 18 1	
Sleeve Installed By:	130000000000000000000000000000000000000	MA	Date Installe		11-11	-14	
Weather:		IND	Time Installe		1040		
wedner.		1.6	Time instance	u	10,0		
Casing Material:	-	140	Water Colu	ımn:			
Casing Diameter:		nuch	Gallons/Foo	ot:	-		
Total Depth (btoc):	-	41.90	Gallons in \	Nell:	-		
Well Casing Volume (Gallons/Foot)		.04 1.5" = 0.09 = 0.06 2" = 0.16	2.5" = 0.26 3" = 0.37	3.5" = 0.50 4" = 0.65	6" = 1.47		<u> </u>
	r	E	Ground	water Sar	mple Collectio	n Informatio	n
TOC	o)		Sleeve Rer	moval:	Date Removed	11-12-	-14
	Line to Surface		Sleeve Removal Post	Low Flow S	Time Removed ample Collection?	Yes / No	
	Line		Sample Ide	entification:			
			Sample Per		n	ND	
Depth to Water			Sample Da		11:	-12-14	
	abla						.(
(ft btoc)			Sample Analysis				
			Sample ID: 6WM- RI	0/2011	(41114)	Sample Time:	1030
			COC: Total Arsenic (6010C)		Preservative: HN0		Bottle Size: 2
2			Field Fitered & Type: Not Filte			For Lab Filtration	
			QA/QC ID:			Sample Time:	
1			Sample ID: (JWM-11)	120141	112)	Sample Time:	1030
T f C			7				
Top of Screen			COC: Dissolved Arsenic (60100 Field Fitered & Type: Yes 0.	- 11 - C-34072C - 500	Preservative: HN0	The Mark No. Company of	Bottle Size: 2
(ft btoc)			QA/QC ID:	.45 µm		For Lab Filtration Sample Time:	on: No
1				- Harrison III	ADDRESS AND ADDRES		
i		Top of Hydrasleeve	Sample ID:			Sample Time:	2 22 22 22
Hydrasleeve		ft btoc	COC: Total Arsenic (7062)	IF	Preservative: HNC	D3	Bottle Size: 2
į	•		Field Fitered & Type: Yes 0.	.45 μm		For Lab Filtration	on: No
i i			QA/QC ID:		· · · · · · · · · · · · · · · · · · ·	Sample Time:	
1			Sample ID:			Sample Time:	1
Weight			COC: Dissolved Arsenic (7062)	F	Preservative: HNO	O3	Bottle Size: 2
	L,		Field Fitered & Type: Yes 0.	.45 µm		For Lab Filtration	on: No
ì		Bottom of Weight	QA/QC ID:			Sample Time:	
<u> </u>		ft btoc	Sample Notes:	6			
Bottom of Screen	TOC	top of casing					
(ft btoc)		feet below top of casing					
	Was III			S			
Well Information		2 / "	1900-1900-1900 - 17-1900	147-171	Lad at D		7
Well Locked at Arr	2,570	1		Well Loc	ked at Departure:	Yes	/ No
	1: oze	46		7.879	/ell Completion:	1	nt / Stick U

Project Number:	MH001026.0002	HydraSleeve Size: 1 - Uh	Well ID: GWM-12
Site:	2251 Armour Road Site	Weight Description:	
Sleeve Installed By:	MA	Date Installed: //-	11-14
Weather:	1110		
vveamer.	1	Time Installed:	
Casing Material:	140	Water Column:	1 11 1
Casing Diameter:	zinh	Gallons/Foot:	
Total Depth (btoc):	a8.75'	Gallons in Well:	
Well Casing Volumes (Gallons/Foot)	1" = 0.04	2.5" = 0.26 3.5" = 0.50 3" = 0.37 4" = 0.65	6" = 1.47
	9 1	Groundwater Sample C	ollection Information
тос			temoved 11-12-14
	Line to Surface	Sleeve Removal Post Low Flow Sample Col	lection? Yes / No
	Lia	Sample Identification:	
		Sample Personnel:	MA
Depth to Water	1 1	Sample Date:	11-92-19
	7	:	
(ft btoc)		Sample Analysis	
		Sample ID: GWM-12 20141112)	Sample Time: 1145
		COC: Total Arsenic (6010C) Preservati	
	*	Field Fitered & Type: Not Filtered	For Lab Filtration: No
		QA/QC ID:	Sample Time:
		Sample ID: GWM - 12 (20141112)	Sample Time: //୩,5
Top of Screen		COC: Dissolved Arsenic (6010C) Preservati	ive: HNO3 Bottle Size: 250
Top of Screen		Field Fitered & Type: Yes 0.45 µm	For Lab Filtration: No
(ft btoc)	<u> </u>	QA/QC ID:	Sample Time:
1	Town of the decade are		
Hydrasloovs	Top of Hydrasleeve	Sample ID: COC: Total Arsenic (7062) Preservati	Sample Time: ive: HNO3 Bottle Size: 250
Hydrasleeve	ft btoc		
i i	i .	Field Fitered & Type: Yes 0.45 µm	For Lab Filtration: No
į į	<u> </u>	QA/QC ID:	Sample Time:
	1	Sample ID:	Sample Time:
Weight		COC: Dissolved Arsenic (7062) Preservati	
, I	<u> </u>	Field Fitered & Type: Yes 0.45 µm	For Lab Filtration: No
į l	Bottom of Weight	QA/QC ID:	Sample Time:
11	ft btoc	Sample Notes:	**************************************
Bottom of Screen	TOC top of casing		
(ft btoc)	ft btoc feet below top of casing		
Well Information Well Locked at Arriva	al: (res) / No	Well Locked at De	eparture: (Yes) / No
	4		
Condition of Well:	arano ()	Well Com	pletion: Flush Mount / Stick Up

Project Number:	MH001026.000	2	Hvdr	aSleeve Size:	1- lih	пю: <u>GM</u>	
Site:	2251 Armour R		### ### CONTROL	t Description:			**************************************
Sleeve Installed By:	AAA	odu Oilo		Pate Installed:	11-11-1	y	
Weather:	[20]	992			12 50		
vveamer.	1.1.4			ime Installed:	120		
Casing Material:	1100			Water Column:			
Casing Diameter:	<u> n'w</u>	M.		Gallons/Foot:		y	
Total Depth (btoc):	24.	53		Gallons in Well:		0 	
Well Casing Volume (Gallons/Foot)	s 1" = 0.04 1.25" = 0.06	1.5" = 0.09 2" = 0.16	2.5" = 0.26 3" = 0.37	3.5" = 0. 4" = 0.68		1.47	
	1 1			Groundwater S	Sample Collec	ction Information	on
TOC	0			Sleeve Removal:	Date Remov		-14
	Line to Surface		Sleeve Re	emoval Post Low Flov	Time Remov		
	Line			Sample Identification	on:		
				Sample Personnel:		MA	
Depth to Water				Sample Date:	-	11-12-14	
- (4 http://							
(ft btoc)			Sample Analysis		7		
			Sample ID: GW	M-138(2)	014/112)	Sample Time:	1300
			COC: Total Arsenic	(6010C)	Preservative:	HNO3	Bottle Size: 250 ml
			Field Fitered & Type	: Not Filtered		For Lab Filtrati	on: No
			QA/QC ID:		10.00	Sample Time:	
			Sample ID: 6WM	1-136 (201	41112)	Sample Time:	1300
Top of Screen			COC: Dissolved Ars	enic (6010C)	Preservative:	HNO3	Bottle Size: 250 mL
(ft btoc)			Field Fitered & Type	: Yes 0.45 μm		For Lab Filtrati	on: No
(It bloc)			QA/QC ID:			Sample Time:	We th
ì	Тор	of Hydrasleeve	Sample ID:		1	Sample Time:	· · · · · · · · · · · · · · · · · · ·
Hydrasleeve		ft btoc	COC: Total Arsenic	(7062)	Preservative:	HNO3	Bottle Size: 250 mL
	^		Field Fitered & Type	: Yes 0.45 µm	The second secon	For Lab Filtration	on: No
1			QA/QC ID:			Sample Time:	
į			Sample ID:			Sample Time:	
Weight			COC: Dissolved Ars	enic (7062)	Preservative:	HNO3	Bottle Size: 250 mL
\sim	.Щi		Field Fitered & Type	: Yes 0.45 μm		For Lab Filtration	on: No
į	Botto	m of Weight	QA/QC ID:			Sample Time:	
1		ft btoc	Sample Notes:	W. W. W.			
Bottom of Screen	TOC top of c	asing	-		NAMES AND ASSESSMENT		
(ft btoc)	ft btoc feet bel	ow top of casing		3,000	3,0	93 all	The state of the s
147-11 1 . c		* 1.000 ** 70,000 ** 16,000					
Well Information Well Locked at Arr		/ No		Well I	Locked at Departu	re: Yes	. / No
Constitution State III				,,,,,,,)
Condition of Wel	1: grood			100	Well Completion	on. / Housh Mo	Int / Stick Up

ARCADIS Hydr	asleeve Installation/Remo	val and Sample Form	Well ID	: Globon-13D
Project Number:	MH001026.0002	HydraSleeve Size:	1-lim	e
Site:	2251 Armour Road Site	Weight Description:	7.00	
Sleeve Installed By:	IM A	Date Installed:	11-11-14	
Weather:	(2)	Time Installed:	1300	
vveatilei.	ev c	Time installed.	100	
Casing Material:	770	Water Column:	=	
Casing Diameter:	"h'ww	Gallons/Foot:	-	
Total Depth (btoc):	44.44'	Gallons in Well:	-	
Well Casing Volume (Gallons/Foot)	s 1" = 0.04 1.5" = 0.09 1.25" = 0.06 2" = 0.16	2.5" = 0.26 3.5" = 0. 3" = 0.37 4" = 0.65		
	T I	Groundwater S	Sample Collectio	n Information
TOC	Φ	Sleeve Removal:	Date Removed	11-12-14
	Line to Surface	Sleeve Removal Post Low Flov		Yes / No
	Lia	Sample Identification	on:	•
		Sample Personnel:	_ ~	1H
Depth to Water		Sample Date:	11-	-12-14
(ft btoc)				
(10 000)		Sample Analysis	μ 115 λ	
		Sample ID: GWM - 130(Qo)	19 (1)(2)	Sample Time: /3/3
		COC: Total Arsenic (6010C)	Preservative: HNC	
		Field Fitered & Type: Not Filtered	W	For Lab Filtration: No
		QA/QC ID:	1411127	Sample Time:
		Sample ID: 6 WM - 130 (20)	41119	Sample Time: /3/3
Top of Screen		COC: Dissolved Arsenic (6010C)	Preservative: HNC	D3 Bottle Size: 250 mL
(ft btoc)		Field Fitered & Type: Yes 0.45 μm	·	For Lab Filtration: No
į	į į	QA/QC ID:	141112)	Sample Time:
j	Top of Hydrasleeve	Campio 12: 0/0 1 / 2		Sample Time: 1315
Hydrasleeve	ft btoc	COC: Total Arsenic (7062)	Preservative: HNC	Bottle Size: 250 mL
į	7 i	Field Fitered & Type: Yes 0.45 μm		For Lab Filtration: No
İ		QA/QC ID:	0/4/112)	Sample Time: 130
Weight		COC: Dissolved Arsenic (7062) Field Fitered & Type: Yes 0.45 µm	Preservative: HNC	
1	Bottom of Weight	Field Fitered & Type: Yes 0.45 μm QA/QC ID:		For Lab Filtration: No Sample Time:
	ft btoc	Sample Notes:		
Bottom of Screen (ft btoc)	TOC top of casing ft btoc feet below top of casing			
Well Information	7 1		W The Services	6
Well Locked at Arr		Well I	Locked at Departure:	Yes / No
Condition of Wel	1: 9000	<u> </u>	Well Completion:	Flush Mount / Stick Up
a bott o	n well cover	mach, no lock or	J-phg.	ma

Site: 225 Amour Road Site Weight Description: Date Installed: 1/4/b Weather: Lossing Maries: 1/4/b Weather: Casing Maries: 1/4/b Water Casing Maries: 1/4/b Water Casing Maries: 1/4/b Well Casing Volumes (Gallons Foot) 1.25 + 0.06 2 + 0.16 2	ARCADIS Hydra	asleeve Installation/Remov	val and Sample Form	Well ID: GWM-14B	<u> </u>
Sleeve Installed By: Weather: Casing Material: Casing Dameter Total Depth (bob): Well Casing Volumes (Galons/Foot) TOC Sleeve Removal: Date Removed Sleeve Removal: Date Removed Date Removed Time Removed Sleeve Removal: Date Removed Time Removed Sleeve Removal: Date Removed Time Removed Sleeve Removal: Date Removed Time Removed Time Removed Sleeve Removal Post Low Flow Sample Collection Information Sleeve Removal Post Low Flow Sample Collection Yes / No Sample Date: 1-13-14 Sample Date: 1-13-14 Sample Time: Sample Date: 1-13-14 Sample Time: Sample Time: Date Top of Screen (It bloc) Top of Screen (It bloc) Top of Hydrasleeve Hydrasleev	Project Number:	MH001026.0002	HydraSleeve Size:	1-line	
Date Installed By: Weather: Casing Malerial: I I I I I I I I I	Site:	2251 Armour Road Site	Weight Description:	Ø	
Time Installed: 1940 Water Column: Gallons/Foot: Gallo	Sleeve Installed By:	MA		11-11-14	
Casing Material: Casing Diameter. Total Depth (bloc): Well Casing Volume: (Calibrai/Foot): TOC Well Casing Volume: (Calibrai/Foot): Sieve Removal: Depth to Water Sieve Removal: Date Removed Time Removed Time Removed Time Removed Sieve Removal Post Low Flow Sample Collection Information Sieve Removal: Sample Identification: Sample Date: 1-13-14 Sample Date: 1-13-14 Sample Date: 1-13-14 Sample Date: 1-13-14 Sample Date: 1-13-14 Sample Date: 1-13-14 Sample Date: 1-13-14 Sample Date: 1-13-14 Sample Time: COC: Total Arsenic (6010C) Field Fitered & Type: Not Filtered OA/OC ID: Sample Time: COC: Dissolved Arsenic (6010C) Freservative: HNO3 Sample Time: COC: Dissolved Arsenic (6010C) Freservative: HNO3 Sorties Size 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No OA/OC ID: Sample Time: COC: Total Arsenic (7082) Freservative: HNO3 Sorties Sample Time: COC: Dissolved Arsenic (7082) Freservative: HNO3 Sorties Sample Time: COC: Total Arsenic (7082) Freservative: HNO3 Sorties Sample Time: COC: Dissolved Arsenic (7082) Freservative: HNO3 Sorties Sample Time: COC: Dissolved Arsenic (7082) Freservative: HNO3 Sorties Sample Time: Sample Time: COC: Dissolved Arsenic (7082) Freservative: HNO3 Sorties Sample Time: Sample Time: COC: Dissolved Arsenic (7082) Freservative: HNO3 Sorties Sample Time: Sample Time: COC: Dissolved Arsenic (7082) Freservative: HNO3 Sorties Sample Time: Sample Time: COC: Dissolved Arsenic (7082) Freservative: HNO3 Sorties Sample Time: Sample Time: COC: Dissolved Arsenic (7082) Freservative: HNO3 Sorties Sample Time: Sample Ti		iold		1940	_
Casing Diameter: Total Depth (stoc): Well Casing Volume (Gallons/Foot) (Gallons/Foot) TOC Gallons in Well: Gallons	-	lvi			_
Total Depth (bloc): Well Casing Volumes (Galons/Foot) TOC Sieeve Removal: Sieeve Removal: Sieeve Removal: Sieeve Removal: Sieve Removal: Sieeve Removal: Sieve Removal: Sample Identification: Sample Parsonnel: Sample Parsonnel: Sample Date: 11-13-14 13-3-0 Yes: / No Depth to Water (It bloc) Top of Screen (It bloc) Top of Hydrasleeve Hydrasleeve Hydrasleeve Hydrasleeve I top of Hydrasleeve I top of Color Colar Arsenic (6010C) Top of Screen (It bloc) Top of Screen (It bloc) Bottom of Weight Restored & Type: Yes: 0.45 µm OA/OC ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Filtered & Type: Yes: 0.45 µm OA/OC ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Filtered & Type: Yes: 0.45 µm OA/OC ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Filtered & Type: Yes: 0.45 µm OA/OC ID: Sample Time: COC: Total Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Filtered & Type: Yes: 0.45 µm OA/OC ID: Sample Time: COC: Total Filtration: No OA/OC ID: Sample ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Filtered & Type: Yes: 0.45 µm OA/OC ID: Sample Time: COC: Total Filtration: No OA/OC ID: Sample Time: COC: Total Filtration: No OA/OC ID: Sample Time: COC: Total Filtration: No OA/OC ID: Sample Time: Sample ID: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Filtred & Type: Yes: 0.45 µm For Lab Filtration: No Sample Time: COC: Total Filtration: No Sample ID: Sample Time: Sample		2444			
Well Casing Volumes (Galtons/Foot) 1.57 = 0.05 2.57 = 0.26 3.57 = 0.50 6" = 1.47	-55		1 TO SOURCE TO SERVICE AND SER	<u> </u>	
Groundwater Sample Collection Information Sieeve Removal: Date Removed 1/-1/3 - 1/9 1/0 3 0 1/0					
Sleeve Removal: Date Removed Time Removed Time Removed Time Removed Sleeve Removal Post Low Flow Sample Collection? Yes / No Sample Identification: Sample Personnel: Sample Date: 12-13-14 Sample ID: Sample ID: Sample Time: /030 Sample Time: /0				6" = 1.47	
Sleeve Removal: Date Removed Time Removed Time Removed Time Removed Time Removed Time Removed Sleeve Removal Post Low Flow Sample Collection? Yes / No Sample ID: Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Date: 1/2-13-14 Sample Time: 1/2-20 GAIGG ID: Sample ID: GWM-14B(30-14113) Sample Time: 1/2-20 GAIGG ID: Sample ID: GWM-14B(30-14113) Sample Time: 1/2-20 GAIGG ID: Sample ID: Sample Time: 1/2-20 GAIGG ID: Sample Time: 1/2-20 Sample ID: GWM-14B(30-14113) Sample Time: 1/2-20 Sample Time: 1/2-20 GAIGG ID: Sample Time: 1/2-20 Sample Time: Sample Time: 1/2-20 Sample Time: Sample Time: Sample Time: 1/2-20 GAIGG ID: Sample Time: Sample Time: 1/2-20 GAIGG ID: Sample Time: Sample Time: Sample Time: 1/2-20 GAIGG ID: Sample Time: Sample		a 1	Groundwater Sa	mple Collection Information	
Sample Personnel: Sample Date: Sample Date: Sample Date: Sample Date: Sample Time: Sa	тос	o Surface		Time Removed 1030	
Sample Personnel: Sample Date: Sample Date: Sample Date: Sample Date: Sample Time: Sa		Line to	Sample Identification		
Sample Date: 1-13-14 Sample Time:	l	1	9 20 4 50 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MA	
Sample ID: GWM - I UP (30 I UII 3) Sample Time: IO30 COC: Total Arsenic (6010C) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Not Filtered GA/QC ID: Sample ID: GWM - I UB (30 I III 3) Sample Time: ID30 Sample ID: GWM - I UB (30 I III 3) Sample Time: ID30 Sample ID: GWM - I UB (30 I III 3) Sample Time: ID30 Sample ID: Sample ID: Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample ID: Sample Time: COC: Total Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample ID: Sample Time: COC: Total Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sam	Depth to Water		749	11-13-14	
Sample ID: GWM - I UP (30 I UII 3) Sample Time: IO30 COC: Total Arsenic (6010C) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Not Filtered GA/QC ID: Sample ID: GWM - I UB (30 I III 3) Sample Time: ID30 Sample ID: GWM - I UB (30 I III 3) Sample Time: ID30 Sample ID: GWM - I UB (30 I III 3) Sample Time: ID30 Sample ID: Sample ID: Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample ID: Sample Time: COC: Total Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample ID: Sample Time: COC: Total Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sam					
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A/QC ID: Sample ID: GWM -1 / 13 Sample Time: COC: Dissolved Arsenic (6010C) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: COC: Dissolved Arsenic (6010C) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: COC: Total Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample Time: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No QA/QC ID: Sample Time: Sample T			COC: Total Arsenic (6010C)	Preservative: HNO3 Bottle S	ize: 250 mL
Sample ID: GWM -1 4B (8010C) Top of Screen (ft bloc) Top of Hydrasleeve Hydrasleeve Hydrasleeve Hydrasleeve Field Fitered & Type: Yes 0.45 µm OA/OC ID: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: COC: Total Arsenic (7062) Field Fitered & Type: Yes 0.45 µm OA/OC ID: Sample Time: Sample Time:			Field Fitered & Type: Not Filtered	For Lab Filtration:	10
COC: Dissolved Arsenic (6010C) (ft bloc) (ft bloc) Top of Hydrasleeve ft bloc Top of Hydrasleeve ft bloc Register of Sample ID: Sample Time: COC: Total Arsenic (7062) Freservative: HNO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: COC: Total Arsenic (7062) Field Fitered & Type: Yes 0.45 µm GA/QC ID: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm GA/QC ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: COC: Dissolved Arsenic (7062) Freservative: HNO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time: Sample Time: Sample Notes: Sample Notes: Sample Notes: Sample Notes: Sample Time: Sam			10101	Sample Time: 10,30	1
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Weight Bottom of Weight ft btoc TOC top of casing ft btoc feet below top of casing Well Information Sample Time: Sample T	Hydrasleeve	ft btoc	COC: Total Arsenic (7062)	Preservative: HNO3 Bottle S	ize: 250 mL
Weight Bottom of Weight ft bloc ft bloc Well Information Sample ID: Sample Time: COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL For Lab Filtration: No QA/QC ID: Sample Time: Sampl	7	*	Field Fitered & Type: Yes 0.45 µm	For Lab Filtration:	10
Weight Bottom of Weight ft btoc TOC top of casing ft btoc feet below top of casing Well Information COC: Dissolved Arsenic (7062) Preservative: HNO3 Bottle Size: 250 mL Field Fitered & Type: Yes 0.45 µm For Lab Filtration: No Sample Time: Sample Notes: Yes 0.45 µm Sconwood building walk 14 34cfs W Yes 0.45 µm For Lab Filtration: No Walk 14 34cfs W Well Information	İ	Î	QA/QC ID:	Sample Time:	
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Bottom of Weight ft btoc TOC top of casing (ft btoc) TOC top of casing Well Information Bottom of Weight A CANON OF Screen (ft btoc) Sample Notes: Y 9 LPBS S. Sample Time: Sample Notes: Y 9 LPBS S.	Weight		COC: Dissolved Arsenic (7062)	Preservative: HNO3 Bottle S	ize: 250 mL
Bottom of Screen (ft btoc) TOC top of casing ft btoc feet below top of casing Well Information Sample Notes: from S Conver of building walk 14 Steps W		, Li			10
Bottom of Screen TOC top of casing (ft btoc) ft btoc feet below top of casing Well Information	į		Laur Cara		1111
(ft btoc) ft btoc feet below top of casing Well Information	į	ft btoc	Sample Notes:	of water 19 step	s vv
Well Information	Bottom of Screen		\$ 1.5PGS_	>.	
	(ft btoc)	ft btoc feet below top of casing			
	Well Information	1			
Well Locked at Arrival: Yes / No Well Locked at Departure: Yes / No		7	Well Lo	cked at Departure: (es) /	No
Condition of Well: 9000d Well Completion: Flush Mount / Stick Up	Condition of Well	: good		Well Completion: Flush Mount / Stic	k Up
of Bollo on well cover that, no lock on J-plug ut	4Boll a				-

Duniant Number	MU004026 0002	1 1	DE GWM-IJB
Project Number:	MH001026.0002	HydraSleeve Size:	## N TO SECURE OF THE PARTY OF
Site:	2251 Armour Road Site	Weight Description:	
Sleeve Installed By: _	c O d	1 M & 30	
Weather:		Time Installed: /1133	
Casing Material:	110	Water Column:	D-1000
Casing Diameter:	2 unh	Gallons/Foot:	
Total Depth (btoc):	120.74	Gallons in Well:	\$ 5 To 10
Well Casing Volumes (Gallons/Foot)	1" = 0.04 1.25" = 0.06 1.25" = 0.06 1.25" = 0.16	2.5" = 0.26 3.5" = 0.50 6" = 1.4 3" = 0.37 4" = 0.65	7
	î î	Groundwater Sample Collecti	on Information
тос	φ)	Sleeve Removal: Date Removed	
	Line to Surface	Sleeve Removal Post Low Flow Sample Collection?	Yes / No
1		Sample Identification:	MA
Depth to Water	11	Sample Personnel: Sample Date:	113-W
Deptil to Water	abla	Sample Date.	11-12-1
(ft btoc)	* 	Sample Analysis	
		Sample ID: GWM-15B(20141113)	Sample Time: /// O
1			NO3 Bottle Size: 250 mL
		Field Fitered & Type: Not Filtered	For Lab Filtration: No
		QA/QC ID:	Sample Time:
		Sample ID: 6WM-1513 (20141/13)	Sample Time: 110
Top of Screen		COC: Dissolved Arsenic (6010C) Preservative: HI	NO3 Bottle Size: 250 mL
Top of Screen		COC: Dissolved Arsenic (6010C) Preservative: Ht	Bottle Size: 250 mL For Lab Filtration: No
Top of Screen (ft btoc)			
10. Suppl. 19 (0.000) No. 62000 (2.000)	Top of Hydrasleeve	Field Fitered & Type: Yes 0.45 μm	For Lab Filtration: No
10. Suppl. 19 (0.000) No. 62000 (2.000)	Top of Hydrasleeve	Field Fitered & Type: Yes 0.45 μm QA/QC ID:	For Lab Filtration: No Sample Time: Sample Time:
(ft btoc)	1 4 " "	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: Ht	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL
(ft btoc)	1 4 " "	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID:	For Lab Filtration: No Sample Time: Sample Time:
(ft btoc)	1 4 " "	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No
(ft btoc)	1 4 " "	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID:	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time:
(ft btoc)	1 4 " "	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: Ht Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID:	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time:
(ft btoc)	1 4 " "	Field Fitered & Type: Yes 0.45 μm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 μm QA/QC ID: Sample ID: COC: Dissolved Arsenic (7062) Preservative: HI	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time: Sample Time: Bottle Size: 250 mL
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(ft btoc) Hydrasleeve Weight	Bottom of Weight ft btoc	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Dissolved Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID:	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No
(ft btoc)	ft btoc	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Dissolved Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID:	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No
Hydrasleeve Weight Bottom of Screen (ft btoc)	Bottom of Weightft btoc TOC top of casing ft btoc feet below top of casing	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Dissolved Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID:	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No
(ft btoc) Hydrasleeve Weight	Bottom of Weight ft btoc TOC top of casing ft btoc feet below top of casing	Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID: Sample ID: COC: Dissolved Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 µm QA/QC ID:	For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: NO3 Sample Time: Sample Time:
Hydrasleeve Weight Bottom of Screen (ft btoc) Well Information	Bottom of Weight ft btoc TOC top of casing ft btoc feet below top of casing ival: Yes / No	Field Fitered & Type: Yes 0.45 μm QA/QC ID: Sample ID: COC: Total Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 μm QA/QC ID: Sample ID: COC: Dissolved Arsenic (7062) Preservative: HI Field Fitered & Type: Yes 0.45 μm QA/QC ID: Sample Notes:	For Lab Filtration: No Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time: NO3 Bottle Size: 250 mL For Lab Filtration: No Sample Time:

ARCADIS

Groundwater Sampling Form

Project Number: 40 Tink Site: KC-MO Sampling Time: 1120 Weather:			ю	Well ID: Date: Sampled By: Duplicate/QA/QC:				GWM-025(20141223) 12/23/14 S. Schmitz				
Instrume	ent Identif	ication		PID				\\/a	tor Ouglit	- Stator(n	\	
mstrume	nı.			FID				VVd	iter Quality	/ Meter(s) 	
Serial #:							YSI -1	.376	lani	,He y	u bidity meter	
Casing M Casing D Total Dep Depth to Water Co Gallons/F Gallons in	iameter: oth: Water: olumn: Foot: n Well:		PVC Zinch 1.58		Scri Pun Volu Tota Pun	e Method:(circle een Interval: np Intake Sei umes to be P al Volume Pu np	From: tting: urged:	orsible Centri	-		Peristaltic	
Field Par	rameter M	easurem	ents Duri	ng Purging Depth to	рН	Conductivity	Turbidity	Diss.	Temp	ORP	Comments:	
Time	Elapsed	(gpm or ml)	Purged	Water	(SI Units)	(µmhos/cm)	(NTUs)	Oxygen	(°C or °F)	(mV)	Oominone.	
1050	0	3,0		21.62	7.00	1.035	6.25	2.71	14.24	-457		
1055	5	1			6.95	1.014		1.1)	14.36	-46.3		
1100	10			2165	6.91	D.969	14,1	0.34	15.95	-67.9		
1105	ir				7.08	0 933	2.81	0.43	15.77	-90.2		
1110	20			21.62	7.11	0.929	2 2 2	0,69	15:74	-98.		
1115	25	¥			7.12	0.927	3.25	0.52	15.77	-100-)		
1120	Sample											
	fan	te co	Jesse de là	j@1 . Gni!	120 1:09	5(2014)	223).					
Observa Well Con Color: Odor:	tions Duri	-	ling		- Turi	ge Water Dis bidity(qualita er (PID, etc.)	tive):	<u>On-8</u>	ite wo	iter G	ntainer	
(Constituen T. Arse D. Arsec	ni	ed	From Lab	mt o	ARCADIS Jashic ashic		1	on AR Pro HAO3 HNO3	eservativ <i>Unpr</i>	e M	

ARCADIS Hydra	asleeve Ins	tallation/Remova	al and Sample Form		Well ID:	GWM-25	
Project Number:	KC001649.00	001	HydraSleeve	Size:	11		
Site:	2251 Armour	Road Site	Weight Descri	iption:			
Sleeve Installed By:	Manu	Afmani	Date Ins		117/14		
Weather:		0.	Time Ins		1430		
_	Ol.	lr.	le/al	les of a sel	<u> </u>	-1.38 btc	00
Casing Material:	PW		Water	Jolum n:	2	-1.00	
Casing Diameter:	<u> 2in</u>	<u>^</u>	Gallons	s/Foot:			
Total Depth (btoc):			Gallons	in Well:	_		
Well Casing Volumes (Gallons/Foot)	s 1" = 0.04 1.25" = 0.06	1.5" = 0.09 2" = 0.16	2.5" = 0.26 3" = 0.37	3.5" = 0.50 4" = 0.65	6" = 1.47		
	1 1		Grou	ndwater Sai	mple Collectior	n Information	
тос	ace		Sleeve	Removai:	Date Removed	12/22/	14
	Line to Surface		Sleeve Removal	Post Low Flow S	Sample Collection?	Yes / No	
	Li		Sample	e Identification:		01	16-
			Sample	Personnel:	Steph	an Schwi	iCZ_
Depth to Water	_		Sample	: Date:		2/22/19	
(ft btoc)	\vee					AND SAMELES AN	
			Total Arsenic - Preserved	/ 0	7)		1820
			Sample ID: GWM-25			Sample Time:	1330
			COC: Arsenic (6010C)		Preservative: HNC		Bottle Size: 250 mL
			Field Fitered & Type: Not	гіпегеа		For Lab Filtration	n: No
			QA/QC ID:			Sample Time:	
			Laboratory Filtered Arsenic	^			.00 0
Top of Screen			Sample ID: GWM-95			Sample Time:	1330
(ft btoc)			COC: Arsenic (6010C)	······································	Preservative: None		Bottle Size: 250 mL
i I	İ			Filtered			n: Yes 0.45 µm
	To	p of Hydrasleeve	QA/QC ID:			Sample Time:	
Hydrasleeve		ft btoc	Dissovled Arsenic - Field Fi	itered and Prese	ervea		A second of the
			Sample ID:			Sample Time:	T
1			COC: Arsenic (6010C)		Preservative: HNC]	Bottle Size: 250 mL
				s 0.45 µm		For Lab Filtratio	n: No
Weight			QA/QC ID:			Sample Time:	
\frac{1}{2}	▝▐▋▍。	ottom of Mojaht	Sample Notes:				
İ		ottom of Weight ft btoc			· · · · · · · · · · · · · · · · · · ·		
Bottom of Screen (ft btoc)	TC ft l		p of casing				
Well Information	n						
Well Locked at Arr		/ No		Well Lo	cked at Departure:	Yes	/ No
Condition of Well	1: Good			,	Well Completion:	Flush Mou	unt / Stick Up
	10.01						

Field Data Sheet Water Level Measurements and Well Depth

Date: 11/11/14

Measured By:

Manu Az

Site: Armour Road Site

Well Identification	Casing Elevation (MSL)	Depth to Groundwater	Total Depth	Comments
GWM-01S	739.82	19.00	27.991	
GWM-02S	739.81	19.46	32.55'	
GWM-02D	739.94	19.49	52.20	
GWM-02B	739.65	19.29'	99.49'	
GWM-03S	742.13	Jap 21.12'	32.09'	
GWM-03D	742.01	21.64'	52.04'	
GWM-03B	742.10	21.73	98,20'	
GWM-04S	733.82	13.78'	30.92'	
GWM-04D	733.88	13.72'	51.1'	
GWM-05S	735.60	15.49"	28.20	
GWM-05D	735.85	15.13'	50.37	
GWM-06S	737.80	18.74	29.21	
GWM-08S	NA	22.22'	28.81	
GWM-08D	742.76	22.40'	48,90'	
GWM-08B	742.54	22.28'	107.66	
GWM-09S	733.47	12.98	20.56	
GWM-09D	733.83	13.41	40.40	
GWM-09B	733.50	13.29	111.56	
GWM-11S	736.08	1559"	22.01	
GWM-11D	736.07	15.66	41.90'	
GWM-11B	735.76	15.64'	94.46	
GWM-12S	740.82	20.34'	28.75'	
GWM-13S	731.72	11.86	24.53	
GWM-13D	731.70	11.89	44.44'	
GWM-14B	743.93	23.61	108.51	
GWM-15B	741.43	21.17'	120.791	
MW-11	740.51	19.96	37.07'	

APPENDIX D LAB DATA AND COC SHEETS



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

TestAmerica Job ID: 490-66427-1 Client Project/Site: Rio Tinto

For:

ARCADIS U.S., Inc. 8725 Rosehill Suite 350 Lenexa, Kansas 66215

Attn: Alex Walter

Authorized for release by: 12/11/2014 8:56:22 AM

Heather Wagner, Project Manager I (615)301-5763

heather.wagner@testamericainc.com

.....LINKS

Review your project results through
Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

490-66427-26

EB-01(20141114)

TestAmerica Job ID: 490-66427-1

	3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-66427-1	GWM-2D(20141112)	Water	11/12/14 08:50	11/15/14 08:50
490-66427-2	GWM-2S(20141112)	Water	11/12/14 09:05	11/15/14 08:50
490-66427-3	GWM-3B(20141112)	Water	11/12/14 09:30	11/15/14 08:50
490-66427-4	GWM-3D(20141112)	Water	11/12/14 09:45	11/15/14 08:50
490-66427-5	GWM-3S(20141112)	Water	11/12/14 10:00	11/15/14 08:50
490-66427-6	GWM-11B(20141112)	Water	11/12/14 10:15	11/15/14 08:50
490-66427-7	GWM-11D(20141112)	Water	11/12/14 10:30	11/15/14 08:50
490-66427-8	GWM-9D(20141112)	Water	11/12/14 10:50	11/15/14 08:50
490-66427-9	GWM-9B(20141112)	Water	11/12/14 11:10	11/15/14 08:50
490-66427-10	GWM-12(20141112)	Water	11/12/14 11:45	11/15/14 08:50
490-66427-11	GWM-6S(20141112)	Water	11/12/14 12:20	11/15/14 08:50
490-66427-12	GWM-13S(20141112)	Water	11/12/14 13:00	11/15/14 08:50
490-66427-13	GWM-13D(20141112)	Water	11/12/14 13:15	11/15/14 08:50
490-66427-14	GWM-5S(20141112)	Water	11/12/14 14:00	11/15/14 08:50
490-66427-15	GWM-5D(20141112)	Water	11/12/14 14:15	11/15/14 08:50
490-66427-16	GWM-4S(20141112)	Water	11/12/14 14:30	11/15/14 08:50
490-66427-17	GWM-4D(20141112)	Water	11/12/14 14:45	11/15/14 08:50
490-66427-18	GWM-1S(20141112)	Water	11/12/14 15:45	11/15/14 08:50
490-66427-19	GWM-14B(20141113)	Water	11/13/14 10:30	11/15/14 08:50
490-66427-20	GWM-15B(20141113)	Water	11/13/14 11:10	11/15/14 08:50
490-66427-21	FB-01(20141113)	Water	11/12/14 15:45	11/15/14 08:50
490-66427-22	GWM-8D(20141113)	Water	11/13/14 13:30	11/15/14 08:50
490-66427-23	FB-03(20141113)	Water	11/13/14 14:00	11/15/14 08:50
490-66427-24	GWM-2B(20141114)	Water	11/14/14 16:30	11/15/14 08:50
490-66427-25	Dup-01(20141114)	Water	11/14/14 16:30	11/15/14 08:50

Water

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9

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4.6

13

11/14/14 16:30 11/15/14 08:50

Case Narrative

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Job ID: 490-66427-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-66427-1

Comments

No additional comments.

Receipt

The samples were received on 11/15/2014 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.4° C and 1.6° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Definitions/Glossary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not
_	applicable.
E	Result exceeded calibration range.

Glossary

RL

RPD

TEF

TEQ

Reporting Limit or Requested Limit (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)
Toxicity Equivalent Quotient (Dioxin)

Relative Percent Difference, a measure of the relative difference between two points

Abbreviation	These commonly used abbreviations may or may not be present in this report.
3	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ИL	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC OC	Quality Control
RER	Relative error ratio

TestAmerica Nashville

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: GWM-2D(20141112)

Lab Sample ID: 490-66427-1 Date Collected: 11/12/14 08:50

Matrix: Water

Date Received: 11/15/14 08:50

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.33		0.0100	0.00720	mg/L		11/26/14 14:47	12/06/14 07:03	1

Method: 6010C - Metals (ICP) - Dis	Method: 6010C - Metals (ICP) - Dissolved									
Analyte	Result Qualifie	r RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
Arsenic	8.48	0.0100	0.00720	mg/L		11/26/14 07:45	12/04/14 22:48	1		

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-2

-ab Sample ID. 490-66427-2

Matrix: Water

Date Collected: 11/12/14 09:05 Date Received: 11/15/14 08:50

Client Sample ID: GWM-2S(20141112)

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.01		0.0100	0.00720	mg/L		11/26/14 14:47	12/06/14 07:07	1
_									

Method: 6010C - Metals (ICP) - Dissolved										
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Arsenic	3.87		0.0100	0.00720	mg/L		11/26/14 07:45	12/04/14 22:52	1

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-3

Matrix: Water

Date Collected: 11/12/14 09:30 Date Received: 11/15/14 08:50

Client Sample ID: GWM-3B(20141112)

	Method: 6010C - Metals (ICP)									
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
l	Arsenic	0.221		0.0100	0.00720	mg/L		11/26/14 14:47	12/06/14 07:11	1

Method: 6010C - Metals (ICP) - Dis	solved							
Analyte	Result Q	tualifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.213	0.0100	0.00720	mg/L		11/26/14 07:45	12/04/14 22:56	1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Client Sample ID: GWM-3D(20141112)

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-4

Matrix: Water

Date Collected: 11/12/14 09:45 Date Received: 11/15/14 08:50

Method: 6010C - Metals (ICP)

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Arsenic 8.73 0.0100 0.00720 mg/L 11/26/14 14:47 12/06/14 07:16

Method: 6010C - Metals (ICP) - Dissolved Analyte Result Qualifier RL MDL Unit D Prepared Dil Fac Analyzed

0.100 0.0720 mg/L 11/26/14 07:45 Arsenic 11.4 12/06/14 15:04 10

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-5

Matrix: Water

Date Collected: 11/12/14 10:00 Date Received: 11/15/14 08:50

Client Sample ID: GWM-3S(20141112)

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.85		0.0100	0.00720	mg/L		12/03/14 07:46	12/05/14 03:11	1
_									

Method: 6010C - Metals (ICP) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.72		0.0100	0.00720	mg/L		11/26/14 07:45	12/04/14 23:15	1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-6

Matrix: Water

Date Collected: 11/12/14 10:15 Date Received: 11/15/14 08:50

Client Sample ID: GWM-11B(20141112)

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.162		0.0100	0.00720	mg/L		12/03/14 07:46	12/05/14 03:43	1

Method: 6010C - Metals (ICP) - Dis	solved						
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.184	0.0100	0.00720 mg/L		11/26/14 14:45	12/06/14 03:25	1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: GWM-11D(20141112)

Lab Sample ID: 490-66427-7

Matrix: Water

Date Collected: 11/12/14 10:30 Date Received: 11/15/14 08:50

Method: 6010C - Metals (ICP) Analyte Result Qualifier RLMDL Unit D Prepared Analyzed Dil Fac Arsenic 4.04 0.0100 0.00720 mg/L 12/03/14 07:46 12/05/14 03:47

Method: 6010C - Metals (ICP) - Dis	solved								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.09		0.0100	0.00720	mg/L		12/02/14 11:19	12/06/14 08:04	1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-8

Matrix: Water

Client Sample ID: GWM-9D(20141112) Date Collected: 11/12/14 10:50

Date Received: 11/15/14 08:50

Method: 6010C - Metals (ICP)							
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0514	0.0100	0.00720 mg/L		12/03/14 07:46	12/05/14 03:51	1

Method: 6010C - Metals (ICP) - Diss	solved						
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0520	0.0100	0.00720 mg/L		12/02/14 11:19	12/06/14 08:09	1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-9

Matrix: Water

Date Collected: 11/12/14 11:10 Date Received: 11/15/14 08:50

Client Sample ID: GWM-9B(20141112)

 Method: 6010C - Metals (ICP)
 Analyte
 Result Arsenic
 Qualifier
 RL O.0100
 MDL O.00720
 Unit mg/L
 D mg/L
 Prepared mg/L
 Analyzed 12/03/14 07:46
 Dil Fac 12/05/14 03:55
 1

Method: 6010C - Metals (ICP) - Dissolved										
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Arsenic	1.87		0.0100	0.00720	mg/L		12/02/14 11:19	12/06/14 08:13	1

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12

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: GWM-12(20141112)

Lab Sample ID: 490-66427-10

Matrix: Water

Date Collected: 11/12/14 11:45 Date Received: 11/15/14 08:50

Method: 6010C - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	I	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0288		0.0100	0.00720	mg/L			12/03/14 07:46	12/05/14 04:00	1

Method: 6010C - Metals (ICP) - Diss	solved							
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0282	0.0100	0.00720	mg/L		12/02/14 11:19	12/06/14 08:17	1

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12

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-11

Matrix: Water

Date Collected: 11/12/14 12:20 Date Received: 11/15/14 08:50

Client Sample ID: GWM-6S(20141112)

 Method: 6010C - Metals (ICP)
 Analyte
 Result Arsenic
 Qualifier
 RL 0.0100
 MDL 0.00720
 Unit mg/L
 D mg/L
 Prepared 12/03/14 07:46
 Analyzed 12/05/14 04:04
 Dil Fac 12/05/14 04:04

Method: 6010C - Metals (ICP) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0100		0.0100	0.00720	mg/L		12/02/14 11:19	12/06/14 08:22	1

8

10

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: GWM-13S(20141112)

Lab Sample ID: 490-66427-12 Date Collected: 11/12/14 13:00 Matrix: Water

Date Received: 11/15/14 08:50

Method: 6010C - Metals (ICP) Analyte Result Qualifier RL MDL Unit D Analyzed Dil Fac Prepared Arsenic <0.0100 0.0100 0.00720 mg/L 12/03/14 07:46 12/05/14 04:08

Method: 6010C - Metals (ICP) - Dissolved Analyte Result Qualifier RL MDL Unit D Prepared Dil Fac Analyzed Arsenic <0.0100 0.0100 0.00720 mg/L 12/02/14 11:19 12/06/14 08:26

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-13

. Matrix: Water

Date Collected: 11/12/14 13:15 Date Received: 11/15/14 08:50

Client Sample ID: GWM-13D(20141112)

Method: 6010C - Metals (ICP)								
Analyte	Result Qualifier	RL	MDL (Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0754	0.0100	0.00720 r	mg/L		12/03/14 07:46	12/05/14 04:13	1

Method: 6010C - Metals (ICP) - Dissolved									
	Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Arsenic	0.0684	0.0100	0.00720	ma/L		12/02/14 11:19	12/06/14 08:40	1

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11

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-14

Matrix: Water

Date Collected: 11/12/14 14:00 Date Received: 11/15/14 08:50

Client Sample ID: GWM-5S(20141112)

 Method: 6010C - Metals (ICP)
 Result Analyte
 Qualifier
 RL O.0100
 MDL O.00720
 Unit Wight
 D Wight
 Prepared Prepared Technology
 Analyzed Dil Fac Technology
 Dil Fac Technology

 Method: 6010C - Metals (ICP) - Dissolved

 Analyte
 Result Arsenic
 Qualifier
 RL 0.0100
 MDL 0.0100
 Unit 0.00720 mg/L
 D 12/02/14 11:19
 Prepared 12/02/14 11:19
 Analyzed 12/06/14 08:45
 Dil Fac

9

10

12

1:

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-15

Matrix: Water

Date Collected: 11/12/14 14:15 Date Received: 11/15/14 08:50

Client Sample ID: GWM-5D(20141112)

Method: 6010C - Metals (ICP)								
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	0.0577	0.0100	0.00720	mg/L		12/03/14 07:42	12/05/14 01:31	

Method: 6010C - Metals (ICP) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0581		0.0100	0.00720	mg/L		12/02/14 11:19	12/06/14 08:49	1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: GWM-4S(20141112)

Date Collected: 11/12/14 14:30

Lab Sample ID: 490-66427-16

Matrix: Water

Date Received: 11/15/14 08:50

 Method: 6010C - Metals (ICP)

 Analyte
 Result Arsenic
 Qualifier
 RL O.0100
 MDL O.00720
 Unit mg/L
 D prepared mg/L
 Analyzed Dil Fac mg/L
 Dil Fac D.005/14 01:35
 1

 Method: 6010C - Metals (ICP) - Dissolved

 Analyte
 Result Arsenic
 Qualifier
 RL O.0100
 MDL O.00720 O.00720
 Unit Mg/L
 D D.00720 Mg/L
 Prepared D.12/02/14 11:19
 Analyzed Dil Fac D.12/06/14 08:53
 D.12/06/14 08:53
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 D.12/06/14 08

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12

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Client Sample ID: GWM-4D(20141112)

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-17

Matrix: Water

Date Collected: 11/12/14 14:45
Date Received: 11/15/14 08:50

 Method: 6010C - Metals (ICP)
 Analyte
 Result Arsenic
 Qualifier
 RL
 MDL Unit
 D Prepared Mg/L
 Analyzed Prepared Mg/L
 D 12/05/14 01:39
 D 12/05/14 01:39
 1

 Method: 6010C - Metals (ICP) - Dissolved

 Analyte
 Result Arsenic
 Qualifier
 RL 0.0100
 MDL 0.00720 0.0

9

10

12

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: GWM-1S(20141112)

Lab Sample ID: 490-66427-18

Matrix: Water

Date Collected: 11/12/14 15:45 Date Received: 11/15/14 08:50

Method: 6010C - Metals (ICP)							
Analyte	Result Qualifier	RL	MDL Uni	it D	Prepared	Analyzed	Dil Fac
Arsenic	0.0931	0.0100	0.00720 mg	/L	12/03/14 07:42	12/05/14 01:53	1

Method: 6010C - Metals (ICP) - Dissolved										
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Arsenic	0.0167		0.0100	0.00720	mg/L		12/02/14 11:19	12/06/14 09:02	1

8

10

11

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

12/05/14 01:57

Matrix: Water

Client Sample ID: GWM-14B(20141113)

Lab Sample ID: 490-66427-19

12/03/14 07:42

Date Collected: 11/13/14 10:30 Date Received: 11/15/14 08:50

Analyte

Arsenic

Method: 6010C - Metals (ICP) Result Qualifier RL MDL Unit D Analyzed Dil Fac Prepared

0.00720 mg/L

Method: 6010C - Metals (ICP) - Dissolved Analyte Result Qualifier RL MDL Unit D Prepared Dil Fac Analyzed 0.588 0.0100 0.00720 mg/L 12/02/14 11:19 Arsenic 12/06/14 09:07

0.0100

0.884

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: GWM-15B(20141113)

Lab Sample ID: 490-66427-20

Matrix: Water

Date Collected: 11/13/14 11:10 Date Received: 11/15/14 08:50

 Method: 6010C - Metals (ICP)
 Result Arsenic
 Qualifier
 RL O.100
 MDL O.0720
 Unit mg/L
 D mg/L
 Prepared mg/L
 Analyzed mg/L
 Dil Fac mg/L
 12/03/14 07:42
 12/06/14 17:09
 10

Analyte	Result Qualifier	RL	MDL	Unit	ı	D	Prepared	Analyzed	Dil Fac
Arsenic	11.0	0.100	0.0720	mg/L			12/02/14 11:19	12/09/14 19:23	10

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-21

Matrix: Water

Date Collected: 11/12/14 15:45 Date Received: 11/15/14 08:50

Client Sample ID: FB-01(20141113)

 Method: 6010C - Metals (ICP)
 Analyte
 Result Arsenic
 Qualifier
 RL 0.0100
 MDL 0.00720
 Unit mg/L
 D 12/03/14 07:42
 Prepared 12/03/14 07:42
 Analyzed 12/05/14 02:06
 Dil Fac 12/03/14 07:42

Method: 6010C - Metals (ICP) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0100		0.0100	0.00720	mg/L		12/02/14 11:19	12/06/14 09:15	1

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-22

Matrix: Water

Date Collected: 11/13/14 13:30 Date Received: 11/15/14 08:50

Client Sample ID: GWM-8D(20141113)

Method: 6010C - Metals (ICP)							
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.166	0.0100	0.00720 mg/L		12/03/14 07:42	12/05/14 02:10	1

Method: 6010C - Metals (ICP) - Dissolved								
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	0.185	0.0100	0.00720 mg/L		12/02/14 11:19	12/06/14 09:20	1	

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-23

Matrix: Water

Date Collected: 11/13/14 14:00 Date Received: 11/15/14 08:50

Client Sample ID: FB-03(20141113)

 Method: 6010C - Metals (ICP)

 Analyte
 Result Arsenic
 Qualifier Qualifier
 RL Qualifier Qualifier
 RL Qualifier

 Method: 6010C - Metals (ICP) - Dissolved

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Arsenic
 <0.0100</td>
 0.0100
 0.00720
 mg/L
 12/02/14 11:19
 12/06/14 09:34
 1

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4.0

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Lab Sample ID: 490-66427-24

Matrix: Water

Date Collected: 11/14/14 16:30 Date Received: 11/15/14 08:50

Client Sample ID: GWM-2B(20141114)

	Method: 6010C - Metals (ICP)									
١	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
l	Arsenic	0.121		0.0100	0.00720	mg/L		12/03/14 07:42	12/05/14 01:06	•

Method: 6010C - Metals (ICP) - Dis	solved						
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.156	0.0100	0.00720 mg/L		12/02/14 11:19	12/06/14 07:52	1

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: Dup-01(20141114)

Lab Sample

Lab Sample ID: 490-66427-25 Matrix: Water

Date Collected: 11/14/14 16:30 Date Received: 11/15/14 08:50

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.151		0.0100	0.00720	mg/L		12/03/14 07:42	12/05/14 02:19	1

 Method: 6010C - Metals (ICP) - Diss	solved								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.151		0.0100	0.00720	mg/L		12/03/14 07:52	12/06/14 15:17	1

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Client Sample ID: EB-01(20141114)

Lab Sample ID: 490-66427-26

Matrix: Water

Date Collected: 11/14/14 16:30 Date Received: 11/15/14 08:50

 Method: 6010C - Metals (ICP)
 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Arsenic
 <0.0100</td>
 0.0100
 0.00720
 mg/L
 12/03/14 07:42
 12/05/14 02:23
 1

Method: 6010C - Metals (ICP) - Dissolved

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Arsenic
 <0.0100</td>
 0.0100
 0.00720
 mg/L
 12/03/14 07:52
 12/06/14 15:21
 1

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 490-209486/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 211953 MB MB

Prep Batch: 209486

RL Result Qualifier MDL Unit D Prepared Dil Fac Analyte Analyzed 0.0100 11/26/14 14:47 Arsenic <0.0100 0.00720 mg/L 12/06/14 05:08

Lab Sample ID: LCS 490-209486/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 211953

Prep Batch: 209486 LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits

Arsenic 0.500 0.4826 mg/L 97 80 - 120

Lab Sample ID: LCSD 490-209486/3-A Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Matrix: Water

Prep Batch: 209486 **Analysis Batch: 211953** LCSD LCSD RPD Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit

0.500 0.4782 80 - 120 20 Arsenic mg/L

Lab Sample ID: 490-66258-F-2-B MS Client Sample ID: Matrix Spike **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 211953 Prep Batch: 209486 Sample Sample Spike MS MS %Rec.

Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits <0.0100 0.500 100 Arsenic 0.4993 mg/L 75 - 125

Lab Sample ID: 490-66258-F-2-C MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

Matrix: Water

Analysis Batch: 211953 Prep Batch: 209486 Sample Sample Spike MSD MSD %Rec. RPD Added Limit Analyte Result Qualifier Result Qualifier Unit D %Rec Limits RPD <0.0100 0.500 0.4964 Arsenic mg/L 75 - 125 20

Client Sample ID: Method Blank Lab Sample ID: MB 490-210844/1-A

Matrix: Water

Prep Type: Total/NA Analysis Batch: 211625 Prep Batch: 210844 MB MB

MDL Unit Result Qualifier RL Analyte Prepared Analyzed Dil Fac 12/03/14 07:42 0.0100 Arsenic < 0.0100 0.00720 mg/L 12/05/14 00:47

Lab Sample ID: MB 490-210844/1-A Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA Analysis Batch: 212063 Prep Batch: 210844

мв мв

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Arsenic <0.0100 0.0100 0.00720 mg/L 12/03/14 07:42 12/06/14 17:02

Lab Sample ID: LCS 490-210844/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 211625 Prep Batch: 210844 Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit D %Rec Limits 0.500 Arsenic 0.4812 mg/L 96 80 - 120

TestAmerica Nashville

Client Sample ID: Lab Control Sample

Client Sample ID: GWM-2B(20141114)

Client Sample ID: GWM-2B(20141114)

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Client Sample ID: GWM-3S(20141112)

Client Sample ID: GWM-3S(20141112)

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 210844

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 210845

Prep Type: Total/NA

Prep Batch: 210845

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Lab Sample ID: LCS 490-210844/2-A

Matrix: Water

Analysis Batch: 212063

Prep Batch: 210844 Spike LCS LCS Added Result Qualifier Limits Analyte Unit %Rec 0.500 95 80 - 120 Arsenic 0.4771 mg/L

Lab Sample ID: 490-66427-24 MS

Matrix: Water

Analysis Batch: 211625

Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier Limits Analyte Unit D Arsenic 0.121 0.500 0.6167 mg/L 99 75 - 125

Lab Sample ID: 490-66427-24 MSD

Matrix: Water

Analysis Batch: 211625

Prep Batch: 210844 Spike MSD MSD RPD Sample Sample %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Arsenic 0.121 0.500 0.6106 75 - 125 mg/L

Lab Sample ID: MB 490-210845/1-A

Matrix: Water

Analysis Batch: 211625

MB MB

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0100	0.0100	0.00720	mg/L		12/03/14 07:46	12/05/14 02:58	1

Lab Sample ID: LCS 490-210845/2-A

Matrix: Water

Analysis Batch: 211625

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits %Rec 0.500 0.4867 97 80 - 120 Arsenic mg/L

Lab Sample ID: LCSD 490-210845/3-A

Matrix: Water

Analysis Batch: 211625 Prep Batch: 210845 Spike LCSD LCSD **RPD** Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 0.500 0.4805 96 80 - 120 Arsenic mg/L 20

Lab Sample ID: 490-66427-5 MS

Matrix: Water

Analysis Batch: 211625

Prep Batch: 210845 MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Arsenic 3.85 0.500 4.461 4 mg/L 123 75 - 125

Lab Sample ID: 490-66427-5 MSD

Matrix: Water

Analysis Batch: 211625

Prep Batch: 210845 Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Arsenic 3.85 0.500 4.365 mg/L 104 75 - 125

TestAmerica Nashville

Client: ARCADIS U.S., Inc. TestAmerica Job ID: 490-66427-1 Project/Site: Rio Tinto

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 490-209261/1-A

Matrix: Water

Analysis Batch: 211625

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 209261

Prep Batch: 209485

Prep Batch: 209485

Client Sample ID: Method Blank

мв мв

RL Result Qualifier MDL Unit D Dil Fac Analyte Prepared Analyzed 0.0100 11/26/14 07:45 12/04/14 21:04 Arsenic <0.0100 0.00720 mg/L

Lab Sample ID: LCS 490-209261/2-A Client Sample ID: Lab Control Sample **Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 211625

Prep Batch: 209261 LCS LCS Spike Result Qualifier Unit %Rec Limits

Analyte Added Arsenic 0.500 0.5242 mg/L 105 80 - 120

Lab Sample ID: MB 490-209485/1-A Client Sample ID: Method Blank **Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 211903

мв мв

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac <0.0100 0.0100 0.00720 mg/L 11/26/14 14:45 12/06/14 01:39 Arsenic

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 490-209485/2-A **Prep Type: Total Recoverable**

Matrix: Water

Analysis Batch: 211903

LCS LCS Spike %Rec. Added Analyte Result Qualifier Unit %Rec Limits

0.500 Arsenic 0.5014 ma/L 100 80 120

Lab Sample ID: MB 490-210615/1-A

Matrix: Water

Analysis Batch: 211953

Prep Type: Total Recoverable Prep Batch: 210615 MR MR

RL MDL Unit Analyte Result Qualifier D Prepared Dil Fac Analyzed 12/02/14 11:19 <0.0100 0.0100 12/06/14 07:33 Arsenic 0.00720 mg/L

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 490-210615/2-A **Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 211953

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits 0.500 Arsenic 0.4736 mg/L 95 80 - 120

Lab Sample ID: MB 490-210848/1-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 212063

Prep Type: Total Recoverable Prep Batch: 210848 мв мв

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Arsenic <0.0100 0.0100 0.00720 mg/L 12/03/14 07:52 12/06/14 14:27

Lab Sample ID: LCS 490-210848/2-A Client Sample ID: Lab Control Sample **Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 212063

Prep Batch: 210848 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 0.500 Arsenic 0.5075 mg/L 102 80 - 120

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Prep Batch: 210615

12/11/2014

TestAmerica Job ID: 490-66427-1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Analysis Batch: 212063

Matrix: Water

Lab Sample ID: LCSD 490-210848/3-A

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 210848 %Rec. RPD

Spike LCSD LCSD Added Result Qualifier Limit Limits RPD Analyte Unit %Rec 0.500 0.5121 80 - 120 20 Arsenic mg/L 102

Lab Sample ID: 490-66285-M-1-B MS Client Sample ID: Matrix Spike **Matrix: Water**

Prep Type: Dissolved Prep Batch: 209261

Analysis Batch: 211625 Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier %Rec Limits Analyte Unit D Arsenic <0.0100 0.500 0.5171 mg/L 103 75 - 125

Lab Sample ID: 490-66285-M-1-C MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Water Prep Type: Dissolved** Analysis Batch: 211625 Prep Batch: 209261 MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Arsenic <0.0100 0.500 0.5109 102 75 - 125 mg/L

Lab Sample ID: 490-66285-M-2-D MS Client Sample ID: Matrix Spike **Matrix: Water**

Prep Type: Dissolved Prep Batch: 209485

Analysis Batch: 211903 Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec

Limits Arsenic 0.0159 0.500 0.5003 mg/L 75 - 125

Lab Sample ID: 490-66285-M-2-E MSD **Matrix: Water**

Client Sample ID: Matrix Spike Duplicate **Prep Type: Dissolved**

Analysis Batch: 211903

Prep Batch: 209485 %Rec. RPD

MSD MSD Sample Sample Spike Analyte Result Qualifier Added Result Qualifier RPD Limit Unit %Rec Limits 0.0159 0.500 0.5092 99 Arsenic 75 - 125 ma/L

Client Sample ID: GWM-2B(20141114)

Lab Sample ID: 490-66427-24 MS **Matrix: Water**

Prep Type: Dissolved

Analysis Batch: 211953

Prep Batch: 210615

Sample Sample Spike MS MS Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 0.156 0.500 Arsenic 0.6392 mg/L 97 75 - 125

Lab Sample ID: 490-66427-24 MSD Client Sample ID: GWM-2B(20141114) **Matrix: Water Prep Type: Dissolved** Analysis Batch: 211953

Prep Batch: 210615

MSD MSD Sample Sample Spike %Rec. RPD Qualifier Analyte Result Qualifier Added Result Unit %Rec Limits RPD Limit Arsenic 0.156 0.500 0.6350 mg/L 96 75 - 125

Lab Sample ID: 490-66581-A-1-B MS Client Sample ID: Matrix Spike **Matrix: Water** Analysis Batch: 212063

Prep Type: Dissolved Prep Batch: 210848

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Arsenic 23.5 E 0.500 <0.0100 mg/L

QC Sample Results

Client: ARCADIS U.S., Inc.

Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Method: 6010C - Metals (ICP) (Continued)

Arsenic

Lab Sample ID: 490-66581-A-1-B MS ^20			Client Sample ID: Matrix Spike
Matrix: Water			Prep Type: Dissolved
Analysis Batch: 212757			Prep Batch: 210848
Sample Sample	Spike	MS MS	%Rec.

Analyte	Result	Qualifier	Added	Result (Qualifier	Unit	D	%Rec	Limits	
Arsenic			0.500	25.16		mg/L				

	Lab Sample ID: 490-66581-A-1	-C MSD						Client S	ample II	D: Matrix S _l	oike Dup	licate
	Matrix: Water									Prep Ty	pe: Diss	olved
	Analysis Batch: 212063									Prep	Batch: 2	10848
		Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
	Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
	Arsenic	23.5	E	0.500	OVER	E 4	ppm		0	75 - 125	NC	20
l		25.5	_	0.500	OVER		ppiii		U	75 - 125	NO	20

Lab Sample ID: 490-66581-A-1-C MSD ^20						Client Sa	ample ID): Matrix S	pike Dup	licate
Matrix: Water								Prep Ty	/pe: Diss	olved
Analysis Batch: 212757								Prep	Batch: 2	10848
Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic		0.500	24.06		mg/L					

24.06

mg/L

0.500

TestAmerica Nashville

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 490-66427-1

Project/Site: Rio Tinto

Metals

Prei	o Ba	tch:	209	261
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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66285-M-1-B MS	Matrix Spike	Dissolved	Water	3005A	_
490-66285-M-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	
490-66427-1	GWM-2D(20141112)	Dissolved	Water	3005A	
490-66427-2	GWM-2S(20141112)	Dissolved	Water	3005A	
490-66427-3	GWM-3B(20141112)	Dissolved	Water	3005A	
490-66427-4	GWM-3D(20141112)	Dissolved	Water	3005A	
490-66427-5	GWM-3S(20141112)	Dissolved	Water	3005A	
LCS 490-209261/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 490-209261/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 209485

Client Sample ID	Prep Type	Matrix	Method	Prep Batch
Matrix Spike	Dissolved	Water	3005A	
Matrix Spike Duplicate	Dissolved	Water	3005A	
GWM-11B(20141112)	Dissolved	Water	3005A	
Lab Control Sample	Total Recoverable	Water	3005A	
Method Blank	Total Recoverable	Water	3005A	
	Matrix Spike Matrix Spike Duplicate GWM-11B(20141112) Lab Control Sample	Matrix Spike Dissolved Matrix Spike Duplicate Dissolved GWM-11B(20141112) Dissolved Lab Control Sample Total Recoverable	Matrix Spike Dissolved Water Matrix Spike Duplicate Dissolved Water GWM-11B(20141112) Dissolved Water Lab Control Sample Total Recoverable Water	Matrix Spike Dissolved Water 3005A Matrix Spike Duplicate Dissolved Water 3005A GWM-11B(20141112) Dissolved Water 3005A Lab Control Sample Total Recoverable Water 3005A

Prep Batch: 209486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66258-F-2-B MS	Matrix Spike	Total/NA	Water	3010A	
490-66258-F-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
490-66427-1	GWM-2D(20141112)	Total/NA	Water	3010A	
490-66427-2	GWM-2S(20141112)	Total/NA	Water	3010A	
490-66427-3	GWM-3B(20141112)	Total/NA	Water	3010A	
490-66427-4	GWM-3D(20141112)	Total/NA	Water	3010A	
LCS 490-209486/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 490-209486/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 490-209486/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 210615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
490-66427-7	GWM-11D(20141112)	Dissolved	Water	3005A	
490-66427-8	GWM-9D(20141112)	Dissolved	Water	3005A	
490-66427-9	GWM-9B(20141112)	Dissolved	Water	3005A	
490-66427-10	GWM-12(20141112)	Dissolved	Water	3005A	
490-66427-11	GWM-6S(20141112)	Dissolved	Water	3005A	
490-66427-12	GWM-13S(20141112)	Dissolved	Water	3005A	
190-66427-13	GWM-13D(20141112)	Dissolved	Water	3005A	
490-66427-14	GWM-5S(20141112)	Dissolved	Water	3005A	
190-66427-15	GWM-5D(20141112)	Dissolved	Water	3005A	
190-66427-16	GWM-4S(20141112)	Dissolved	Water	3005A	
190-66427-17	GWM-4D(20141112)	Dissolved	Water	3005A	
190-66427-18	GWM-1S(20141112)	Dissolved	Water	3005A	
190-66427-19	GWM-14B(20141113)	Dissolved	Water	3005A	
190-66427-20	GWM-15B(20141113)	Dissolved	Water	3005A	
190-66427-21	FB-01(20141113)	Dissolved	Water	3005A	
190-66427-22	GWM-8D(20141113)	Dissolved	Water	3005A	
190-66427-23	FB-03(20141113)	Dissolved	Water	3005A	
90-66427-24	GWM-2B(20141114)	Dissolved	Water	3005A	
490-66427-24 MS	GWM-2B(20141114)	Dissolved	Water	3005A	

TestAmerica Nashville

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Metals (Continued)

Prep Batch: 210615 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66427-24 N	SD GWM-2B(20141114)	Dissolved	Water	3005A	
LCS 490-21061	5/2-A Lab Control Sample	Total Recoverable	Water	3005A	
MB 490-210615	1-A Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 210844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66427-14	GWM-5S(20141112)	Total/NA	Water	3010A	_
490-66427-15	GWM-5D(20141112)	Total/NA	Water	3010A	
490-66427-16	GWM-4S(20141112)	Total/NA	Water	3010A	
490-66427-17	GWM-4D(20141112)	Total/NA	Water	3010A	
490-66427-18	GWM-1S(20141112)	Total/NA	Water	3010A	
490-66427-19	GWM-14B(20141113)	Total/NA	Water	3010A	
490-66427-20	GWM-15B(20141113)	Total/NA	Water	3010A	
490-66427-21	FB-01(20141113)	Total/NA	Water	3010A	
490-66427-22	GWM-8D(20141113)	Total/NA	Water	3010A	
490-66427-23	FB-03(20141113)	Total/NA	Water	3010A	
490-66427-24	GWM-2B(20141114)	Total/NA	Water	3010A	
490-66427-24 MS	GWM-2B(20141114)	Total/NA	Water	3010A	
490-66427-24 MSD	GWM-2B(20141114)	Total/NA	Water	3010A	
490-66427-25	Dup-01(20141114)	Total/NA	Water	3010A	
490-66427-26	EB-01(20141114)	Total/NA	Water	3010A	
LCS 490-210844/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 490-210844/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 210845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66427-5	GWM-3S(20141112)	Total/NA	Water	3010A	
490-66427-5 MS	GWM-3S(20141112)	Total/NA	Water	3010A	
490-66427-5 MSD	GWM-3S(20141112)	Total/NA	Water	3010A	
490-66427-6	GWM-11B(20141112)	Total/NA	Water	3010A	
490-66427-7	GWM-11D(20141112)	Total/NA	Water	3010A	
490-66427-8	GWM-9D(20141112)	Total/NA	Water	3010A	
490-66427-9	GWM-9B(20141112)	Total/NA	Water	3010A	
490-66427-10	GWM-12(20141112)	Total/NA	Water	3010A	
490-66427-11	GWM-6S(20141112)	Total/NA	Water	3010A	
490-66427-12	GWM-13S(20141112)	Total/NA	Water	3010A	
490-66427-13	GWM-13D(20141112)	Total/NA	Water	3010A	
LCS 490-210845/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 490-210845/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 490-210845/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 210848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66427-25	Dup-01(20141114)	Dissolved	Water	3005A	
490-66427-26	EB-01(20141114)	Dissolved	Water	3005A	
490-66581-A-1-B MS	Matrix Spike	Dissolved	Water	3005A	
490-66581-A-1-B MS ^20	Matrix Spike	Dissolved	Water	3005A	
490-66581-A-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	
490-66581-A-1-C MSD ^20	Matrix Spike Duplicate	Dissolved	Water	3005A	
LCS 490-210848/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-210848/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Metals (Continued)

Prep Batch: 210848 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-210848/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 211625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66285-M-1-B MS	Matrix Spike	Dissolved	Water	6010C	20926
490-66285-M-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	6010C	20926
490-66427-1	GWM-2D(20141112)	Dissolved	Water	6010C	20926
490-66427-2	GWM-2S(20141112)	Dissolved	Water	6010C	20926
490-66427-3	GWM-3B(20141112)	Dissolved	Water	6010C	20926
490-66427-5	GWM-3S(20141112)	Dissolved	Water	6010C	20926
490-66427-5	GWM-3S(20141112)	Total/NA	Water	6010C	21084
490-66427-5 MS	GWM-3S(20141112)	Total/NA	Water	6010C	21084
490-66427-5 MSD	GWM-3S(20141112)	Total/NA	Water	6010C	21084
490-66427-6	GWM-11B(20141112)	Total/NA	Water	6010C	21084
490-66427-7	GWM-11D(20141112)	Total/NA	Water	6010C	21084
490-66427-8	GWM-9D(20141112)	Total/NA	Water	6010C	21084
490-66427-9	GWM-9B(20141112)	Total/NA	Water	6010C	21084
490-66427-10	GWM-12(20141112)	Total/NA	Water	6010C	21084
490-66427-11	GWM-6S(20141112)	Total/NA	Water	6010C	21084
490-66427-12	GWM-13S(20141112)	Total/NA	Water	6010C	21084
490-66427-13	GWM-13D(20141112)	Total/NA	Water	6010C	21084
490-66427-14	GWM-5S(20141112)	Total/NA	Water	6010C	21084
490-66427-15	GWM-5D(20141112)	Total/NA	Water	6010C	210844
490-66427-16	GWM-4S(20141112)	Total/NA	Water	6010C	21084
490-66427-17	GWM-4D(20141112)	Total/NA	Water	6010C	21084
490-66427-18	GWM-1S(20141112)	Total/NA	Water	6010C	21084
490-66427-19	GWM-14B(20141113)	Total/NA	Water	6010C	21084
490-66427-21	FB-01(20141113)	Total/NA	Water	6010C	210844
490-66427-22	GWM-8D(20141113)	Total/NA	Water	6010C	210844
490-66427-24	GWM-2B(20141114)	Total/NA	Water	6010C	21084
490-66427-24 MS	GWM-2B(20141114)	Total/NA	Water	6010C	21084
490-66427-24 MSD	GWM-2B(20141114)	Total/NA	Water	6010C	210844
490-66427-25	Dup-01(20141114)	Total/NA	Water	6010C	21084
490-66427-26	EB-01(20141114)	Total/NA	Water	6010C	21084
LCS 490-209261/2-A	Lab Control Sample	Total Recoverable	Water	6010C	20926
LCS 490-210844/2-A	Lab Control Sample	Total/NA	Water	6010C	21084
LCS 490-210845/2-A	Lab Control Sample	Total/NA	Water	6010C	21084
LCSD 490-210845/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	21084
MB 490-209261/1-A	Method Blank	Total Recoverable	Water	6010C	20926
MB 490-210844/1-A	Method Blank	Total/NA	Water	6010C	21084
MB 490-210845/1-A	Method Blank	Total/NA	Water	6010C	21084

Analysis Batch: 211903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66285-M-2-D MS	Matrix Spike	Dissolved	Water	6010C	209485
490-66285-M-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	6010C	209485
490-66427-6	GWM-11B(20141112)	Dissolved	Water	6010C	209485
LCS 490-209485/2-A	Lab Control Sample	Total Recoverable	Water	6010C	209485
MB 490-209485/1-A	Method Blank	Total Recoverable	Water	6010C	209485

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TestAmerica Job ID: 490-66427-1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Metals (Continued)

Analysis Batch: 211953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66258-F-2-B MS	Matrix Spike	Total/NA	Water	6010C	209486
490-66258-F-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010C	209486
490-66427-1	GWM-2D(20141112)	Total/NA	Water	6010C	209486
490-66427-2	GWM-2S(20141112)	Total/NA	Water	6010C	209486
490-66427-3	GWM-3B(20141112)	Total/NA	Water	6010C	209486
490-66427-4	GWM-3D(20141112)	Total/NA	Water	6010C	209486
490-66427-7	GWM-11D(20141112)	Dissolved	Water	6010C	210615
490-66427-8	GWM-9D(20141112)	Dissolved	Water	6010C	210615
490-66427-9	GWM-9B(20141112)	Dissolved	Water	6010C	210615
490-66427-10	GWM-12(20141112)	Dissolved	Water	6010C	210615
490-66427-11	GWM-6S(20141112)	Dissolved	Water	6010C	210615
490-66427-12	GWM-13S(20141112)	Dissolved	Water	6010C	210615
490-66427-13	GWM-13D(20141112)	Dissolved	Water	6010C	210615
490-66427-14	GWM-5S(20141112)	Dissolved	Water	6010C	210615
490-66427-15	GWM-5D(20141112)	Dissolved	Water	6010C	210615
490-66427-16	GWM-4S(20141112)	Dissolved	Water	6010C	210615
490-66427-17	GWM-4D(20141112)	Dissolved	Water	6010C	210615
490-66427-18	GWM-1S(20141112)	Dissolved	Water	6010C	210615
490-66427-19	GWM-14B(20141113)	Dissolved	Water	6010C	210615
490-66427-21	FB-01(20141113)	Dissolved	Water	6010C	210615
490-66427-22	GWM-8D(20141113)	Dissolved	Water	6010C	210615
490-66427-23	FB-03(20141113)	Dissolved	Water	6010C	210615
490-66427-24	GWM-2B(20141114)	Dissolved	Water	6010C	210615
490-66427-24 MS	GWM-2B(20141114)	Dissolved	Water	6010C	210615
490-66427-24 MSD	GWM-2B(20141114)	Dissolved	Water	6010C	210615
LCS 490-209486/2-A	Lab Control Sample	Total/NA	Water	6010C	209486
LCS 490-210615/2-A	Lab Control Sample	Total Recoverable	Water	6010C	210615
LCSD 490-209486/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	209486
MB 490-209486/1-A	Method Blank	Total/NA	Water	6010C	209486
MB 490-210615/1-A	Method Blank	Total Recoverable	Water	6010C	210615

Analysis Batch: 212063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66427-20	GWM-15B(20141113)	Total/NA	Water	6010C	210844
490-66427-23	FB-03(20141113)	Total/NA	Water	6010C	210844
490-66427-25	Dup-01(20141114)	Dissolved	Water	6010C	210848
490-66427-26	EB-01(20141114)	Dissolved	Water	6010C	210848
490-66581-A-1-B MS	Matrix Spike	Dissolved	Water	6010C	210848
490-66581-A-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	6010C	210848
LCS 490-210844/2-A	Lab Control Sample	Total/NA	Water	6010C	210844
LCS 490-210848/2-A	Lab Control Sample	Total Recoverable	Water	6010C	210848
LCSD 490-210848/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	210848
MB 490-210844/1-A	Method Blank	Total/NA	Water	6010C	210844
MB 490-210848/1-A	Method Blank	Total Recoverable	Water	6010C	210848

Analysis Batch: 212066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66427-4	GWM-3D(20141112)	Dissolved	Water	6010C	209261

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Client: ARCADIS U.S., Inc.
Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Metals (Continued)

Analysis Batch: 212749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66427-20	GWM-15B(20141113)	Dissolved	Water	6010C	210615

Analysis Batch: 212757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66581-A-1-B MS ^20	Matrix Spike	Dissolved	Water	6010C	210848
490-66581-A-1-C MSD ^20	Matrix Spike Duplicate	Dissolved	Water	6010C	210848

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TestAmerica Job ID: 490-66427-1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Client Sample ID: GWM-2D(20141112)

Date Collected: 11/12/14 08:50

Date Received: 11/15/14 08:50

Lab Sample ID: 490-66427-1

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	209261	11/26/14 07:45	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211625	12/04/14 22:48	LEG	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	209486	11/26/14 14:47	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 07:03	CME	TAL NSH

Client Sample ID: GWM-2S(20141112)

Date Collected: 11/12/14 09:05

Date Received: 11/15/14 08:50

Lab Sample ID: 490-66427-2

Matrix: Water

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 3005A Dissolved Prep 50 mL 50 mL 209261 11/26/14 07:45 NJB TAL NSH Dissolved Analysis 6010C 1 50 mL 50 mL 211625 12/04/14 22:52 LEG TAL NSH Total/NA Prep 3010A 50 mL 50 mL 209486 11/26/14 14:47 NJB TAL NSH 12/06/14 07:07 TAL NSH Total/NA Analysis 6010C 1 50 mL 50 mL 211953 CME

Client Sample ID: GWM-3B(20141112)

Date Collected: 11/12/14 09:30

Date Received: 11/15/14 08:50

Lab Sample ID: 490-66427-3

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	209261	11/26/14 07:45	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211625	12/04/14 22:56	LEG	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	209486	11/26/14 14:47	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 07:11	CME	TAL NSH

Initial

Amount

50 mL

50 mL

50 mL

50 mL

Final

Amount

50 ml

50 mL

50 mL

50 mL

Batch

Number

209261

212066

209486

211953

Dil

10

Factor

Run

Client Sample ID: GWM-3D(20141112)

Batch

Туре

Prep

Prep

Analysis

Analysis

Batch

Method

3005A

6010C

3010A

6010C

Date Collected: 11/12/14 09:45

Date Received: 11/15/14 08:50

Prep Type

Dissolved

Dissolved

Total/NA

Total/NA

.ab	Sample	ID: 490-66427-4
		Matrix: Water

 Prepared

 or Analyzed
 Analyst
 Lab

 11/26/14 07:45
 NJB
 TAL NSH

 12/06/14 15:04
 CME
 TAL NSH

 11/26/14 14:47
 NJB
 TAL NSH

Client Sample ID: GWM-3S(20141112)

Date Collected: 11/12/14 10:00

Date Received: 11/15/14 08:50

Lab Sample ID: 490-66427-5

CME

12/06/14 07:16

Matrix: Water

TAL NSH

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	209261	11/26/14 07:45	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211625	12/04/14 23:15	LEG	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH

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TestAmerica Job ID: 490-66427-1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Lab Sample ID: 490-66427-5

Date Collected: 11/12/14 10:00 Date Received: 11/15/14 08:50

Matrix: Water

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Analysis 6010C 50 mL 50 mL 211625 12/05/14 03:11 LEG TAL NSH

Client Sample ID: GWM-11B(20141112)

Client Sample ID: GWM-3S(20141112)

Lab Sample ID: 490-66427-6

Matrix: Water

Date Received: 11/15/14 08:50

Date Collected: 11/12/14 10:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	209485	11/26/14 14:45	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211903	12/06/14 03:25	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 03:43	LEG	TAL NSH

Lab Sample ID: 490-66427-7

Client Sample ID: GWM-11D(20141112) Date Collected: 11/12/14 10:30

Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:04	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 03:47	LEG	TAL NSH

Client Sample ID: GWM-9D(20141112)

Lab Sample ID: 490-66427-8

Matrix: Water

Date Collected: 11/12/14 10:50 Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:09	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 03:51	LEG	TAL NSH

Client Sample ID: GWM-9B(20141112)

Lab Sample ID: 490-66427-9

Matrix: Water

Date Collected: 11/12/14 11:10 Date Received: 11/15/14 08:50

Γ		Batch	Batch		Dil	Initial	Final	Batch	Prepared		
	Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
i	Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
	Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:13	CME	TAL NSH
-	Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH
-	Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 03:55	LEG	TAL NSH

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Client Sample ID: GWM-12(20141112)

Lab Sample ID: 490-66427-10 Date Collected: 11/12/14 11:45

Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:17	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 04:00	LEG	TAL NSH

Client Sample ID: GWM-6S(20141112) Lab Sample ID: 490-66427-11

Matrix: Water Date Collected: 11/12/14 12:20

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:22	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 04:04	LEG	TAL NSH

Client Sample ID: GWM-13S(20141112)

Lab Sample ID: 490-66427-12 Date Collected: 11/12/14 13:00 Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:26	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 04:08	LEG	TAL NSH

Client Sample ID: GWM-13D(20141112) Lab Sample ID: 490-66427-13

Date Collected: 11/12/14 13:15

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:40	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210845	12/03/14 07:46	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 04:13	LEG	TAL NSH

Lab Sample ID: 490-66427-14 **Client Sample ID: GWM-5S(20141112)**

Date Collected: 11/12/14 14:00 Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:45	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH

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Matrix: Water

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Lab Sample ID: 490-66427-14

Matrix: Water

Date Collected: 11/12/14 14:00 Date Received: 11/15/14 08:50

Client Sample ID: GWM-5S(20141112)

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Analysis 6010C 50 mL 50 mL 211625 12/05/14 01:27 LEG TAL NSH

Lab Sample ID: 490-66427-15

Client Sample ID: GWM-5D(20141112) Date Collected: 11/12/14 14:15 Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:49	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 01:31	LEG	TAL NSH

Client Sample ID: GWM-4S(20141112) Lab Sample ID: 490-66427-16

Date Collected: 11/12/14 14:30 **Matrix: Water**

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:53	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 01:35	LEG	TAL NSH

Client Sample ID: GWM-4D(20141112) Lab Sample ID: 490-66427-17

Date Collected: 11/12/14 14:45 Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 08:58	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 01:39	LEG	TAL NSH

Client Sample ID: GWM-1S(20141112) Lab Sample ID: 490-66427-18

Date Collected: 11/12/14 15:45 Matrix: Water Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 09:02	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 01:53	LEG	TAL NSH

TestAmerica Nashville

Client: ARCADIS U.S., Inc.

Project/Site: Rio Tinto

Client Sample ID: GWM-14B(20141113) Lab Sample ID: 490-66427-19

Date Collected: 11/13/14 10:30 Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 09:07	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 01:57	LEG	TAL NSH

Client Sample ID: GWM-15B(20141113) Lab Sample ID: 490-66427-20

Date Collected: 11/13/14 11:10 **Matrix: Water**

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		10	50 mL	50 mL	212749	12/09/14 19:23	LEG	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		10	50 mL	50 mL	212063	12/06/14 17:09	CME	TAL NSH

Client Sample ID: FB-01(20141113) Lab Sample ID: 490-66427-21 Matrix: Water

Date Collected: 11/12/14 15:45 Date Received: 11/15/14 08:50

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 09:15	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 02:06	LEG	TAL NSH

Client Sample ID: GWM-8D(20141113) Lab Sample ID: 490-66427-22

Date Collected: 11/13/14 13:30

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared			
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab	
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH	
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 09:20	CME	TAL NSH	
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH	
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 02:10	LEG	TAL NSH	

Lab Sample ID: 490-66427-23 Client Sample ID: FB-03(20141113)

Date Collected: 11/13/14 14:00 Matrix: Water

Date Received: 11/15/14 08:50

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 09:34	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH

TestAmerica Nashville

12/11/2014

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Matrix: Water

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Lab Sample ID: 490-66427-23

Matrix: Water

Date Collected: 11/13/14 14:00 Date Received: 11/15/14 08:50

Client Sample ID: FB-03(20141113)

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	6010C		1	50 mL	50 mL	212063	12/06/14 17:13	CME	TAL NSH

Client Sample ID: GWM-2B(20141114)

Lab Sample ID: 490-66427-24

Matrix: Water

Date Collected: 11/14/14 16:30 Date Received: 11/15/14 08:50

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210615	12/02/14 11:19	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	211953	12/06/14 07:52	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 01:06	LEG	TAL NSH

Client Sample ID: Dup-01(20141114)

Lab Sample ID: 490-66427-25

Date Collected: 11/14/14 16:30 Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210848	12/03/14 07:52	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	212063	12/06/14 15:17	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 02:19	LEG	TAL NSH

Client Sample ID: EB-01(20141114)

Lab Sample ID: 490-66427-26

Date Collected: 11/14/14 16:30 Matrix: Water

Date Received: 11/15/14 08:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210848	12/03/14 07:52	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	212063	12/06/14 15:21	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	210844	12/03/14 07:42	NJB	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211625	12/05/14 02:23	LEG	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Nashville

Method Summary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66427-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date		
A2LA	A2LA		NA: NELAP & A2LA	12-31-15		
A2LA	ISO/IEC 17025		0453.07	12-31-15		
Alaska (UST)	State Program	10	UST-087	10-31-15		
Arizona	State Program	9	AZ0473	05-05-15		
Arkansas DEQ	State Program	6	88-0737	04-25-15		
California	NELAP	9	1168CA	10-31-14 *		
Connecticut	State Program	1	PH-0220	12-31-15		
Florida	NELAP	4	E87358	06-30-15		
Illinois	NELAP	5	200010	12-09-15		
lowa	State Program	7	131	04-01-16		
Kansas	NELAP	7	E-10229	01-31-15		
Kentucky (UST)	State Program	4	19	06-30-15		
Kentucky (WW)	State Program	4	90038	12-31-14 *		
Louisiana	NELAP	6	30613	06-30-15		
Maryland	State Program	3	316	03-31-15		
Massachusetts	State Program	1	M-TN032	06-30-15		
Minnesota	NELAP	5	047-999-345	12-31-14 *		
Mississippi	State Program	4	N/A	06-30-15		
Montana (UST)	State Program	8	NA	02-24-20		
Nevada	State Program	9	TN00032	07-31-15		
New Hampshire	NELAP	1	2963	10-09-15		
New Jersey	NELAP	2	TN965	06-30-15		
New York	NELAP	2	11342	03-31-15		
North Carolina (WW/SW)	State Program	4	387	12-31-14 *		
North Dakota	State Program	8	R-146	06-30-15		
Ohio VAP	State Program	5	CL0033	10-16-15		
Oklahoma	State Program	6	9412	08-31-15		
Oregon	NELAP	10	TN200001	04-29-15		
Pennsylvania	NELAP	3	68-00585	06-30-15		
Rhode Island	State Program	1	LAO00268	12-30-14 *		
South Carolina	State Program	4	84009 (001)	02-28-15		
South Carolina (DW)	State Program	4	84009 (002)	02-23-17		
Tennessee	State Program	4	2008	02-23-17		
Texas	NELAP	6	T104704077	08-31-15		
JSDA	Federal		S-48469	10-30-16		
Utah	NELAP	8	TN00032	07-31-15		
Virginia	NELAP	3	460152	06-14-15		
Washington	State Program	10	C789	07-19-15		
West Virginia DEP	State Program	3	219	02-28-15		
Wisconsin	State Program	5	998020430	08-31-15		
Wyoming (UST)	A2LA	8	453.07	12-31-15		

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 $[\]ensuremath{^{\star}}$ Certification renewal pending - certification considered valid.

THE LEADER IN ENVIRONMENTAL TESTING Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 11/15/2014@ 0850	
1. Tracking #(last 4 digits, FedEx)	
Courier: FedEx IR Gun ID 12080142	
2. Temperature of rep. sample or temp blank when opened:	
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NONA	
4. Were custody seals on outside of cooler?	
If yes, how many and where:	
5. Were the seals intact, signed, and dated correctly? (YES)NONA	
6. Were custody papers inside cooler? (YES)NONA	
I certify that I opened the cooler and answered questions 1-6 (intial)	
7. Were custody seals on containers: YES NO and Intact YESNONA)
Were these signed and dated correctly? YESNONA	
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None	
9. Cooling process: Ice Ice-pack (Ice (direct contact) Dry ice Other None	
10. Did all containers arrive in good condition (unbroken)? (YES)NONA	
11. Were all container labels complete (#, date, signed, pres., etc)?	
12. Did all container labels and tags agree with custody papers? YESNONA	
13a. Were VOA vials received? YESNONA	
b. Was there any observable headspace present in any VOA vial? YESNO. (.NA	g.
14. Was there a Trip Blank in this cooler? YESNO. NA If multiple coolers, sequence #	
I certify that I unloaded the cooler and answered questions 7-14 (intial)	
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YESNONA	
b. Did the bottle labels indicate that the correct preservatives were used YESNONA	
16. Was residual chlorine present? YESNO. (NA	
I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial)	-
17. Were custody papers properly filled out (ink, signed, etc)? YESNONA	
18. Did you sign the custody papers in the appropriate place? YES .NONA	
19. Were correct containers used for the analysis requested? YESNONA	
20. Was sufficient amount of sample sent in each container? YESNONA	
I certify that I entered this project into LIMS and answered questions 17-20 (intial)	
I certify that I attached a label with the unique LIMS number to each container (intial)	7

21. Were there Non-Conformance issues at login? YES./.NO

Was a NCM generated? YES ...NO ...#_

..NO...NA (YES)..NO...NA

YES, NO...NA

Nashville, TN COOLER RECEIPT FORM	
Cooler Received/Opened On: 11/15/2014 @ 0850	
1. Tracking #(last 4 digits, FedEx)	
Courier: Fed-ex IR Gun: 18290455	
2. Temperature of rep. sample or temp blank when opened:Degrees Celsius	
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen	YES NO NA
4. Were custody seals on outside of cooler?	YESNONA
If yes, how many and where:	
5. Were the seals intact, signed, and dated correctly?	YES NONA
6. Were custody papers inside cooler?	YESNONA
I certify that I opened the cooler and answered guestions 1-6 (intial)	D
7. Were custody seals on containers: YES NO and Intact	YES NO N
Were these signed and dated correctly?	YESNO(NA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite—Foam Insert Pape	er Other None
9. Cooling process: Ice Ice-pack (Ice (direct contact) Dry ice	e Other None
10. Did all containers arrive in good condition (unbroken)?	YESNONA
11. Were all container labels complete (#, date, signed, pres., etc)?	YESNONA
12. Did all container labels and tags agree with custody papers?	YESNONA
13a. Were VOA vials received?	YES NO NA
b. Was there any observable headspace present in any VOA vial?	YESNONA
14. Was there a Trip Blank in this cooler? YESNO. NA If multiple coolers, sequer	nce #
certify that I unloaded the cooler and answered questions 7-14 (intial)	1/
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level?	YESNONA
b. Did the bottle labels indicate that the correct preservatives were used	YESNONA
16. Was residual chlorine present?	YESNONA
certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial))
17. Were custody papers properly filled out (ink, signed, etc)?	YESNONA

18. Did you sign the custody papers in the appropriate place?

19. Were correct containers used for the analysis requested?

20. Was sufficient amount of sample sent in each container?

I certify that I entered this project into LIMS and answered questions 17-20 (intial)

I certify that I attached a label with the unique LIMS number to each container (intial)

21. Were there Non-Conformance issues at login? YES. NO Was a NCM generated? YES...NO.



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C	US	to	dy	R	e	C	r	a
TAI -	4124	1/100	17)					

Temperature on Receipt _____

TestAmerica

Drinking Water? Yes \(\) No (

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)																					
ARCADIS		Project	Manage	er Lek	We	alb	er	-		-		2 4000			Date	11/	14	14		Chain of Custody 1	
	+350		one Nun	nber (A	rea Co	ode)/Fa	ax Nu		r	-					Lab N	Vumbe	r			Page_f	of 3
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Project Name and Lagation (State)	Mo		Waybill									Arcour.	Arsen				6	664	127	Snecial	Instructions/
Contract/Purchase Order/Quote No. K COO [649.000]		1		Matri	x			Con Pres													ns of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Alf Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCI	NaOH	Zn4c/ NaOH	12	25.7]	
GWM-2D (2014/112)	11-12-14	0850	X					2				X	大							01	
GWM-28(20141112)		905	X	~		1_		2				X	X							2	
GWM-3B(20141112)		930	X					2				X	X							3	
GWM-3D (20 14 11 12)	C	249	X			_		2				X	X		_				. 4	Y	
3WM-38/20141(12)	10	000	*	1-				2				X	X							5	
GWM-11B(20141/12)	1	1015	X	_				2				X	X					2 2		6	
GWM-11D 720141112)	675-1	030	X					2				X	X							7	
GWM-9D(201411/2)	1	050	X			\perp		2				K	X					1.*		8	
GWM-9B(20141112)		110	X					2				K	X					· 22/2		9	
GWM-12 (20141112)	1	145	X					2				X	-							10	
GWM-68(20141112)	1.	220	X					2				X	X							11	
GWM-13& (2014/112)	1.	300	X		1,	<u>. </u>		2				X	X		<u> </u>					12	
Possible Hazard Identification Non-Hazard Flammable Skin Irritant	☐ Poison B	Unknown	Samp	ole Dis Return	posai To Clie	ent (Dispo	sal B	By La	ab [] Arc	hive For		_ Mon	nths ,	(A fee n longer i	nay be than 1	e asses month	sed if samples are)	retained
Turn Around Time Required	Песя	45T) au		TD			1				S (Spe	city)		-	P .	14	(21	lor	61		
1. Relinquished By Manual Association 14 Days 14 Days 1. Relinquished By	ys 21 Days	Date			ne Bo	0		Recei			a / ~	7/1	enic AN	J 1.	10 10)· y	TIL	<u>٠</u>		Date U/15/14	Time AVSO
2. Relinquished By		Date		Tin			2. F	Recei	ived E	By	<i>-U</i>	11	10							Date	Time
3. Relinquished By		Date		Tin	ne		3. F	<i>Ресеі</i>	ived L	Ву						_ = _			-	Date	Time
Comments							1					-3								J	

Page 53 of 55

Chain of







Temperature on Receipt

TestAmerica

Custody Record	Drink	ina i	Wate	212	Yest	Π Λ	6	Æ		T	HE I	FAD	FR I	N EN	IVIRO	DNM	ENT	, AL	TES	TING	a a					
TAL-4124 (1007)							6			***												04-		ata ata A		
ALCAOLS	Projec			M	1970	- W										Date	(1)	14	11	4		Cna	n of Cus	519	3 9	
Address 2725 hoschill Rd. #350	Telepi	91	3.	er (Ar	2 ·	ode)/Fax	N									Lab M						Paç	je		of	3
leneka 18 66215	ma	WW				Lab	Con	ntact					ادرام		Analy more .					1		1				
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Contract/Purchase Order/Quote No. KCO 6 6 49.00 0			Л	Natrix				Cont Pres		rs & tives		4	ONC										Cor	dition	is of R	Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line) Date	Time	Air	Aqueous	Sed.	Soll	<i>Unpres.</i>	H2SO4	HNO3	HC/	NaOH ZnAc/	NaOH	30	Dissolve													
GWM-13D(20141112) 11-12-14	1315		X					2				X	X									,		13		
GWM-54 (201411)	1400		X					2				X	X											14		
GWM-5D/2014/1(2)	1415		X					2				X	X											15		
GWM-48 (20/4/11/2)	1430		X					2_				X	X											16		
GWM-4D/20141112)	1445		X					2				X	X											17		
GWM-18(20141112)	1545		X					2				X	X										1	8		
GWM-14B(20141113) 11-13-14	1030		X					2				X	X										l	9		
GWM-15B(201411/3) 11-13-14	1110		X					2				X	X											10		
FB-01(20141112) 11-12-14	1545		X					2				X	X											U		
GWM-8D (2014/113) 11-13-14	1330		X					2				X	X											22		
FB-03(20141113) 11-13-14	-		X					2				X	X											23		V. B. 4022 10
GWM-2B(20/41114) 11-14-14			X					2				X	X											24		
Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B	D Unknov			le Disp eturn 1		ent (D 1	Disp:	sai B	iy Lab] Arct	hive F	or		_ Moi	nths	lon	ger th	han 1	mont	h)	if samp	les are	retained	d
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Page 54 of 55

Chain of

Custody Record









TestAmerica

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Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc. Job Number: 490-66427-1

Login Number: 66427 List Source: TestAmerica Nashville

List Number: 1

Creator: Gambill, Shane

oreator. Gumbin, Onane		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6/0.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

TestAmerica Job ID: 490-66581-1 Client Project/Site: Rio Tinto

For:

ARCADIS U.S., Inc. 8725 Rosehill Suite 350 Lenexa, Kansas 66215

Attn: Alex Walter

Jennifer Huckaba

Authorized for release by: 12/18/2014 4:47:30 PM Jennifer Huckaba, Project Manager II (615)301-5042 jennifer.huckaba@testamericainc.com

Designee for

Heather Wagner, Project Manager I (615)301-5763

heather.wagner@testamericainc.com

····· Links ·····

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

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Sample Summary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-66581-1	GWM-8B (20141117)	Water	11/17/14 17:00	11/18/14 09:00
490-66581-2	DUP-02 (20141117)	Water	11/17/14 17:00	11/18/14 09:00
490-66581-3	EB-02 (20141117)	Water	11/17/14 17:08	11/18/14 09:00

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Case Narrative

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

Job ID: 490-66581-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-66581-1

Comments

No additional comments.

Receipt

The samples were received on 11/18/2014 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Definitions/Glossary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not
	applicable.

Glossary

QC

RER

RPD

TEF TEQ

RL

Quality Control

Relative error ratio

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit

12/18/2014

Client Sample Results

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 490-66581-1

Project/Site: Rio Tinto

Client Sample ID: GWM-8B (20141117)

Lab Sample ID: 490-66581-1

Matrix: Water

Date Collected: 11/17/14 17:00 Date Received: 11/18/14 09:00

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	22.8		0.200	0.144	mg/L		12/04/14 08:41	12/06/14 17:30	20

 Method: 6010C - Metals (ICP) - Disa	solved								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	25.4		0.200	0.144	mg/L		12/03/14 07:52	12/10/14 03:29	20

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

Client Sample ID: DUP-02 (20141117)

Lab Sample ID: 490-66581-2

Date Collected: 11/17/14 17:00 Date Received: 11/18/14 09:00

Matrix: Water

Method: 6010C - Metals (ICP)

Analyte Result Qualifier RLMDL Unit D Analyzed Dil Fac Prepared

Arsenic 24.8 0.200 0.144 mg/L 12/04/14 08:41 12/06/14 18:06 20

Method: 6010C - Metals (ICP) - Dissolved

Analyte Result Qualifier RL MDL Unit D Prepared Dil Fac Analyzed 0.100 0.0720 mg/L 12/03/14 07:52 Arsenic 21.0 12/17/14 19:39 10

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Client Sample ID: EB-02 (20141117)

TestAmerica Job ID: 490-66581-1

Lab Sample ID: 490-66581-3

Matrix: Water

Date Collected: 11/17/14 17:08

Date Received: 11/18/14 09:00

 Method: 6010C - Metals (ICP)
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Arsenic
 <0.0100</td>
 0.0100
 0.00720
 mg/L
 12/04/14 08:41
 12/05/14 13:47
 1

Method: 6010C - Metals (ICP) - Dis	solved								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0100		0.0100	0.00720	mg/L		12/03/14 07:52	12/06/14 15:36	1

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Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Prep Batch: 211174

Prep Type: Total/NA Prep Batch: 211174

Prep Type: Total/NA

Prep Batch: 211174

Prep Type: Total/NA

Prep Batch: 211174

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 490-211174/1-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 211893

мв мв

Result Qualifier MDL Unit Dil Fac RLD Prepared Analyzed Analyte 0.0100 12/04/14 08:41 12/05/14 12:41 Arsenic <0.0100 0.00720 mg/L

Lab Sample ID: MB 490-211174/1-A

Matrix: Water

Analysis Batch: 212063

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Arsenic <0.0100 0.0100 0.00720 mg/L 12/04/14 08:41 12/06/14 17:20

Lab Sample ID: LCS 490-211174/2-A

Matrix: Water

Analysis Batch: 211893

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	 0.500	0.4977		mg/L		100	80 - 120	

Lab Sample ID: LCS 490-211174/2-A

Matrix: Water

Analysis Batch: 212063

-	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	0.500	0.4854		mg/L	_	97	80 - 120	

Lab Sample ID: LCSD 490-211174/3-A

Matrix: Water

Analysis Batch: 211893

•	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	0.500	0.5085		mg/L		102	80 - 120	2	20

Lab Sample ID: LCSD 490-211174/3-A

Matrix: Water

Analysis Batch: 212063						Prep	Batch: 2	11174
	Spike	LCSD	LCSD			%Rec.		RPD
Analyte	Added	Result	Qualifier U	nit D	%Rec	Limits	RPD	Limit
Arsenic	0.500	0.4916	m	g/L	98	80 - 120	1	20

Lab Sample ID: 490-66581-1MS

Matrix: Water

Analysis Batch: 212063									Prep l	Batch: 211174	ŀ
	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Arsenic	22.8		0.500	23.82	4	mg/L		204	75 - 125		•

Lab Sample ID: 490-66581-1MSD

Matrix: Water									Prep 1	Type: To	tal/NA
Analysis Batch: 212063									Prep	Batch: 2	11174
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	22.8		0.500	23 58	4	ma/l		156	75 - 125	1	20

TestAmerica Nashville

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Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 211174

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Client Sample ID: GWM-8B (20141117) Prep Type: Total/NA

Client Sample ID: GWM-8B (20141117)

QC Sample Results

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 490-66581-1

Project/Site: Rio Tinto

Lab Sample ID: MB 490-210848/1-A

Lab Sample ID: LCS 490-210848/2-A

Lab Sample ID: LCSD 490-210848/3-A

Matrix: Water

Matrix: Water

Matrix: Water

Arsenic

Analysis Batch: 212063

Analysis Batch: 212063

Analysis Batch: 212063

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 210848

MB MB

Result Qualifier RL MDL Unit Analyte D Analyzed Dil Fac Prepared 0.0100 12/03/14 07:52 <0.0100 0.00720 mg/L 12/06/14 14:27 Arsenic

0.5075

LCSD LCSD

MSD MSD

mg/L

Client Sample ID: Lab Control Sample **Prep Type: Total Recoverable**

Prep Batch: 210848

Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit D

0.500

Client Sample ID: Lab Control Sample Dup

102

80 - 120

Prep Type: Total Recoverable

Prep Batch: 210848 RPD %Rec. Limit RPD

Spike Result Qualifier Analyte Added Unit D %Rec Limits Arsenic 0.500 0.5121 mg/L 102 80 - 120

Lab Sample ID: 490-66581-1MS Client Sample ID: GWM-8B (20141117)

Matrix: Water

Analysis Batch: 212063 MS MS

Sample Sample

Prep Type: Dissolved Prep Batch: 210848

Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Arsenic 0.500 <0.0100 mg/L

Lab Sample ID: 490-66581-1MSD

Matrix: Water

Analysis Batch: 212063

Client Sample ID: GWM-8B (20141117)

Prep Type: Dissolved Prep Batch: 210848 %Rec. RPD

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 0.500 <0.0100 Arsenic mg/L

Spike

QC Association Summary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

Metals

Prep Batch: 210848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66581-1	GWM-8B (20141117)	Dissolved	Water	3005A	
490-66581-1MS	GWM-8B (20141117)	Dissolved	Water	3005A	
490-66581-1MSD	GWM-8B (20141117)	Dissolved	Water	3005A	
490-66581-2	DUP-02 (20141117)	Dissolved	Water	3005A	
490-66581-3	EB-02 (20141117)	Dissolved	Water	3005A	
LCS 490-210848/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-210848/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 490-210848/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 211174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66581-1	GWM-8B (20141117)	Total/NA	Water	3010A	<u> </u>
490-66581-1MS	GWM-8B (20141117)	Total/NA	Water	3010A	
490-66581-1MSD	GWM-8B (20141117)	Total/NA	Water	3010A	
490-66581-2	DUP-02 (20141117)	Total/NA	Water	3010A	
490-66581-3	EB-02 (20141117)	Total/NA	Water	3010A	
LCS 490-211174/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 490-211174/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 490-211174/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 211893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66581-3	EB-02 (20141117)	Total/NA	Water	6010C	211174
LCS 490-211174/2-A	Lab Control Sample	Total/NA	Water	6010C	211174
LCSD 490-211174/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	211174
MB 490-211174/1-A	Method Blank	Total/NA	Water	6010C	211174

Analysis Batch: 212063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66581-1	GWM-8B (20141117)	Total/NA	Water	6010C	211174
490-66581-1MS	GWM-8B (20141117)	Dissolved	Water	6010C	210848
490-66581-1MS	GWM-8B (20141117)	Total/NA	Water	6010C	211174
490-66581-1MSD	GWM-8B (20141117)	Dissolved	Water	6010C	210848
490-66581-1MSD	GWM-8B (20141117)	Total/NA	Water	6010C	211174
490-66581-2	DUP-02 (20141117)	Total/NA	Water	6010C	211174
490-66581-3	EB-02 (20141117)	Dissolved	Water	6010C	210848
LCS 490-210848/2-A	Lab Control Sample	Total Recoverable	Water	6010C	210848
LCS 490-211174/2-A	Lab Control Sample	Total/NA	Water	6010C	211174
LCSD 490-210848/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	210848
LCSD 490-211174/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	211174
MB 490-210848/1-A	Method Blank	Total Recoverable	Water	6010C	210848
MB 490-211174/1-A	Method Blank	Total/NA	Water	6010C	211174

Analysis Batch: 212757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66581-1	GWM-8B (20141117)	Dissolved	Water	6010C	210848

Analysis Batch: 214961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-66581-2	DUP-02 (20141117)	Dissolved	Water	6010C	210848

TestAmerica Nashville

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Lab Chronicle

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

Lab Sample ID: 490-66581-1

Matrix: Water

Client Sample ID: GWM-8B (20141117) Date Collected: 11/17/14 17:00

Date Received: 11/18/14 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210848	12/03/14 07:52	NJB	TAL NSH
Dissolved	Analysis	6010C		20	50 mL	50 mL	212757	12/10/14 03:29	LEG	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	211174	12/04/14 08:41	AJD	TAL NSH
Total/NA	Analysis	6010C		20	50 mL	50 mL	212063	12/06/14 17:30	CME	TAL NSH

Client Sample ID: DUP-02 (20141117) Lab Sample ID: 490-66581-2

Date Collected: 11/17/14 17:00 Matrix: Water

Date Received: 11/18/14 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210848	12/03/14 07:52	NJB	TAL NSH
Dissolved	Analysis	6010C		10	50 mL	50 mL	214961	12/17/14 19:39	ADN	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	211174	12/04/14 08:41	AJD	TAL NSH
Total/NA	Analysis	6010C		20	50 mL	50 mL	212063	12/06/14 18:06	CME	TAL NSH

Client Sample ID: EB-02 (20141117) Lab Sample ID: 490-66581-3 Matrix: Water

Date Collected: 11/17/14 17:08 Date Received: 11/18/14 09:00

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	210848	12/03/14 07:52	NJB	TAL NSH
Dissolved	Analysis	6010C		1	50 mL	50 mL	212063	12/06/14 15:36	CME	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	211174	12/04/14 08:41	AJD	TAL NSH
Total/NA	Analysis	6010C		1	50 mL	50 mL	211893	12/05/14 13:47	LEG	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Nashville

Method Summary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-66581-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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TestAmerica Job ID: 490-66581-1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-15
Arizona	State Program	9	AZ0473	05-05-15
Arkansas DEQ	State Program	6	88-0737	04-25-15
California	NELAP	9	1168CA	10-31-14 *
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Ilinois	NELAP	5	200010	12-09-15
lowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	01-31-15
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-14 *
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-15
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-15
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-15
North Carolina (WW/SW)	State Program	4	387	12-31-15
North Dakota	State Program	8	R-146	06-30-15
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-29-15
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-14 *
South Carolina	State Program	4	84009 (001)	02-28-15
South Carolina (DW)	State Program	4	84009 (002)	02-23-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
JSDA	Federal		S-48469	10-30-16
Jtah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-15
Visconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15

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 $[\]ensuremath{^{\star}}$ Certification renewal pending - certification considered valid.



COOLER RECEIPT FORM



Cooler Received/Opened On11/18/2014 @ _0900 490.265594	
1. Tracking # 9690 (last 4 digits, FedEx)	Chain of Custody
Courier:Fed Ex IR Gun ID97310166	
2. Temperature of rep. sample or temp blank when opened: D. Degrees Celsius	
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen?	YES NO. NA
4. Were custody seals on outside of cooler?	MÉDNONA
If yes, how many and where:	(IL)3IV
	(YES)NONA
5. Were the seals intact, signed, and dated correctly?	\sim
6. Were custody papers inside cooler?	(ES)NONA
I certify that I opened the cooler and answered questions 1-6 (intial)	
7. Were custody seals on containers: YES 🎁 and Intact	YESNONA
Were these signed and dated correctly?	YESNO(A)
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper	Other None
9. Cooling process:	Other None
10. Did all containers arrive in good condition (unbroken)?	YESNONA
11. Were all container labels complete (#, date, signed, pres., etc)?	ESNONA
12. Did all container labels and tags agree with custody papers?	YES)NONA
13a. Were VOA vials received?	YESNONA
b. Was there any observable headspace present in any VOA vial?	YESNO(NA
14. Was there a Trip Blank in this cooler? YES(NONA If multiple coolers, sequence	ce #
certify that I unloaded the cooler and answered questions 7-14 (intial)	4
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level?	YESNO. (NA)
b. Did the bottle labels indicate that the correct preservatives were used	ESNONA
16. Was residual chlorine present?	YESNO(NA
certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial)	ELA
17. Were custody papers properly filled out (ink, signed, etc)?	RESNONA
18. Did you sign the custody papers in the appropriate place?	ESNONA
19. Were correct containers used for the analysis requested?	YEŞNONA
20. Was sufficient amount of sample sent in each container?	YESNONA
certify that I entered this project into LIMS and answered questions 17-20 (intial)	-A
certify that I attached a label with the unique LIMS number to each container (intial)	LA
21. Were there Non-Conformance issues at login? YESNO Was a NCM generated? YES	NO#

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Page 16 of 17

ARCADIS
Intrastructure Water-Environment-Buildings

ID#:	 	 _
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CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

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Lab Work Order #

## CAND 19. 19. 19. 19. 19. 19. 19. 19. 19. 19.	F lo +++6 o N	1		
Sample D Collection Type (c) WM - 96 (2014) 17 11-71-9 1700 W 1 WM - 96 (2014) 117 11-71-9 11-71-9 11-71-9 11-71-9 11-71-9 11-71-9 11-71-9 11-7	E CACADIS	913.492.0900	Preservative C	
Color Colo	Address:		# of Containers	B. HČL 2. 1 L Amber
Color Colo	\$ 9725 hould ha.		Container '	D. NaOH 4. 500 ml Plasfic
Color Colo	City State Zip	E-mail Address:		F. Other: 6. 2 oz. Glass
Sample D Collection Corp Good Matrix WMM-\$6 (20141117) MS (1-174) (700 V W I I I I I I I I I I I I I I I I I I	1º levera 45 66215			G. Other: 8. 8.oz. Glass
Special InstructionexComments: Special QACC Instructions(*):		1400/1641.000		10. Other:
Special Instructiones/Commentes: Special Instructiones/Commentes: Special Instructiones/Commentes/Com	Sampler's Printed Name: Manu Ajmam	Sampler's Signature		SO - Soil SE - Sediment NL - NAPL/Oil
GUM-SB (2014)117 11-714 1700 V W 1 1 1 1 1 1 1 1 1	Sample #	Collection Type (*)	\\ \pu \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	T Tissue A - Air Other
Special Instructions/Comments: Special Instructions/Comments:			K. K.	REMARKS
Special Instructions/Comments: Special Instructions/Comments:	GWM-8B(20191117)			
Special Instructions/Comments: Special Instructions/Comments: Special QAGC Instructions(1); Special QAGC Instructions(2); Special QAGC Instructions(3); Special QAGC Instructions(4); Special QAGC Instructions(5); Special QAGC Instructions(6); Special QAGC Instructions(7	6 WM-8B (20141117) MS	11-1744 1700 W		
Special Instructions/Comments: Special Available Special Avai	GWM-8B (20141117) MSD	11-17-14 (100 V W		
Special Instructions/Comments: Special QAQC Instructions(*):	Dub-02/2014[117)	11-7-4 1700 UW		. 490
Special Instructions/Comments: Special QA/QC instructions(*):	CB-02/2014/117)	11-17-14 1708 V W		66581
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Cooler packed with ice (<) Intact Not Intact Signature: Signature	Lab Name:	Cooler Custody Seal (1)		
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Condition/Code reals.	Specify Turnaround Requirements:	Sample Receipt: Firm:	ARCA 915 Firm/Courier: Firm/Courier:	John Gra
	Shipping Tracking #:	Condition/Cooler Temp: Date/T	11-17-14 1900 Dete/Time: Date/Time:	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc. Job Number: 490-66581-1

Login Number: 66581 List Source: TestAmerica Nashville

List Number: 1

Creator: Abernathy, Eric

oreator. Abernatny, Linc	
Question	Answer Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td>	N/A
The cooler's custody seal, if present, is intact.	True
Sample custody seals, if present, are intact.	True
The cooler or samples do not appear to have been compromised or tampered with.	True
Samples were received on ice.	True
Cooler Temperature is acceptable.	True
Cooler Temperature is recorded.	True
COC is present.	True
COC is filled out in ink and legible.	True
COC is filled out with all pertinent information.	True
Is the Field Sampler's name present on COC?	True
There are no discrepancies between the containers received and the COC.	True
Samples are received within Holding Time.	True
Sample containers have legible labels.	True
Containers are not broken or leaking.	True
Sample collection date/times are provided.	True
Appropriate sample containers are used.	True
Sample bottles are completely filled.	True
Sample Preservation Verified.	N/A
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True
Multiphasic samples are not present.	True
Samples do not require splitting or compositing.	True
Residual Chlorine Checked.	N/A

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December 34, 2014

Manu Ajmani Arcadis

8725 Rosehill Suite 350

Lenexa, KS 66215

ALS Environmental ALS Group USA, Corp 1317 South 13th Avenue Kelso, WA 98626

T: 1-360-577-7222 F: 1-360-636-1068 www.alsglobal.com

Analytical Report for Service Request No: K1412945

RE: Rio Tinto/UCCO 1649.001

Dear Manu:

Enclosed are the results of the sample(s) submitted to our laboratory on November 15, 2014. For your reference, these analyses have been assigned our service request number **K1412945**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at gregory.salata@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Gregory Salata, Ph.D. Client Services Manager

Page 1 of ___82

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LOD Limit of Detection
LOQ Limit of Quantitation

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater than or

equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso State Certifications, Accreditations, and Licenses

Web Site	Number
http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
http://www.azdhs.gov/lab/license/env.htm	AZ0339
http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Not available	_
http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
http://www.pjlabs.com/	L14-50
http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Not available	WA01276
http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156,00.html	9949
http://www.health.state.mn.us/accreditation	053-999-457
http://www.dphhs.mt.gov/publichealth/	CERT0047
http://ndep.nv.gov/bsdw/labservice.htm	WA01276
http://www.nj.gov/dep/oqa/	WA005
http://www.dwqlab.org/	605
http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
http://www.scdhec.gov/environment/envserv/	61002
http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
http://dnr.wi.gov/	998386840
http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
www.alsglobal.com	NA
	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx http://www.azdhs.gov/lab/license/env.htm http://www.adeq.state.ar.us/techsvs/labcert.htm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx http://www.pjlabs.com/ http://www.pjlabs.com/ http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx Not available http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156,00.html http://www.health.state.mn.us/accreditation http://www.deplhs.mt.gov/publichealth/ http://www.dphhs.mt.gov/publichealth/ http://www.nj.gov/bsdw/labservice.htm http://www.nj.gov/bsdw/labservice.htm http://www.deq.state.ok.us/CSDnew/labcert.htm http://www.deq.state.ok.us/CSDnew/labcert.htm http://www.deq.state.ok.us/CSDnew/labcert.htm http://www.deq.state.ok.us/CSDnew/labcert.htm http://www.scdhec.gov/environment/envserv/ http://www.scdhec.gov/environment/envserv/ http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html http://dnr.wi.gov/ http://www.epa.gov/region8/water/dwhome/wyomingdi.html

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

ALS ENVIRONMENTAL

Client:ARCADIS U.S., Inc.Service Request No.:K1412945Project:Rio Tinto/ UCCO 1649.001Date Received:11/15/14

Sample Matrix: Water

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eight water samples were received for analysis at ALS Environmental on 11/15/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Total and Dissolved Metals

Matrix Spike Recovery Exceptions:

The control criteria for matrix spike recovery of Arsenic for the Batch QC1 and Batch QC2 samples were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No other anomalies associated with the analysis of these samples were observed.

Approved by Chegay Salata



Chain of Custody

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

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Infrastr	icture, environment, buildings	

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM Page ____ of ____

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Lab	Work	Ord	er#				
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Send Results to:	Contact & Company Name: ARCADIS Address B125 PBCWW H3.#350 City State Zip WHRO KS 66215 at Namer Location (City, State): A TIKK Armon by KCM Her's Printed Name: Sample ID	E-mail Addres	C00/16	: 49.		OO Matrix	Preservative Filtered (<) # of Containe Containe Information	PAR	AMETE	RANA	LYSIS 8	METH	IOD /		W - Water T - Tissue	Keys Containe 1. 40 ml 2. 1 L Ar 3. 250 m 4. 500 m 5. Encor 6. 2 oz. (7. 4 oz. (9. Other: 10. Other: SE - Sediment SL - Sludge A - Air	nber il Plastic il Plastic e Glass Glass Glass
		Date	Time	Comp	Grab	. 1	N. 12	1, 12	· · · · · · · · · · · · · · · · · · ·	/					REMARKS		
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	Cooler packed with ice (<')	☐ Inta	ıct	□ No	ot Intact	Signatu	MAN	dui-		Signature:	Kil		Signature:		Signatu	re:	
Specif	y Turnaround Requirements:	Sample F	Receipt:			Firm:	ALIM	15		irm/Courier:			Firm/Courier:		Firm:		
Shippi	ng Tracking #:	Condition	ı/Cooler Te	mp:		Date/Ti	me: - U	-14/18	00	Pate/Time:	0920	<u> </u>	Date/Time:		Date/Til	me:	



Cooler Receipt and Preservation Form

PC	6	5
-	200	

Page_____of___

Leceived: 1115/14	T CCOL	Opened:_	11/15/14	_	By	<u> </u>	3CI VIC	e Request K Unload	111	5/14	By:_	BK	
Samples were rec. Samples were rec. Were custody sea. If present, were concepted. Cooler Temp. Cooler Temp. Cooler Temp.	eived in: (cir lls on coolers ustody seals	?	NA Corr. Factor		E	If	s, how	Other many and wat, were they	nere?	nd Delivered Local dated? Tracking I			N NA File
Packing material: Were custody paper of the	pers properly rive in good of abels completed and tags bottles/contractions eserved bottles a received with gative?	filled out condition (te (i.e anal agree with ainers and es (see SMC	unbroken) ysis, prese custody provolumes re	d, etc.)? Indication, apers? ecceived received	ate in the etc.)? Indicate for the ed at the tab	he table e majo tests in a appropriate appropriate belo	r discre	v. epancies in th			NA NA NA NA NA NA		N N N N N
Sample 1	D			Dut of H		oke	рΗ	Reagent	Volume added	Reagent L Number		nitials	Time



ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-6S (20141112) Lab Code: K1412945-001

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	31.9		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-6S (20141112) Lab Code: K1412945-001DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	1.0	0.2	2.0	11/21/14	12/04/14	0.4	J	

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-13D (20141112) Lab Code: K1412945-002

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	39.2		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-13D (20141112) Lab Code: K1412945-002DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	31.0		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-5S (20141112) Lab Code: K1412945-003

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	46.2		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-5S (20141112) Lab Code: K1412945-003DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	42.9		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-5D (20141112) Lab Code: K1412945-004

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	58.5		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-5D (20141112) Lab Code: K1412945-004DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	51.9		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-4S (20141112) Lab Code: K1412945-005

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	31.6		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-4S (20141112) Lab Code: K1412945-005DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	23.2		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-4D (20141112) Lab Code: K1412945-006

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	64.6		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-4D (20141112) Lab Code: K1412945-006DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	10.0	2.0	20.0	11/21/14	12/04/14	57.1		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: FB-02 (20141112) Lab Code: K1412945-007

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	1.0	0.2	2.0	11/21/14	12/04/14	0.2	ŭ	

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/12/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: FB-02 (20141112) Lab Code: K1412945-007DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	1.0	0.2	2.0	11/21/14	12/04/14	0.2	υ	

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/14/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-2B (20141114) Lab Code: K1412945-008

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	20.0	4.0	40.0	11/21/14	12/04/14	123		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected: 11/14/14

Project Name: Rio Tinto Date Received: 11/15/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-2B (20141114) Lab Code: K1412945-008DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	20.0	4.0	40.0	11/21/14	12/04/14	136		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Date Collected:

Project Name: Rio Tinto Date Received:

Matrix: WATER ug/L

Basis: NA

Sample Name: K1412945-MB Lab Code: K1412945-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	1.0	0.2	2.0	11/21/14	12/04/14	0.2	υ	



INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001

Project Name: Rio Tinto

ICV Source: Inorganic Ventures CCV Source: ALS MIXED

	Initial	Calibratio	on		Continui	ing Cali	Continuing Calibration			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method	
Arsenic	7.50	7.49	100	7.50	7.19	96	7.13	95	7062	



INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001

Project Name: Rio Tinto

ICV Source: Inorganic Ventures CCV Source: ALS MIXED

	Initial Calibration								
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Arsenic			1	7.50	7.02	94	7.67	102	7062



INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001

Project Name: Rio Tinto

ICV Source: Inorganic Ventures CCV Source: ALS MIXED

	Initial Calibration								
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Arsenic				7.50	7.73	103	7.68	102	7062



INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001

Project Name: Rio Tinto

ICV Source: Inorganic Ventures CCV Source: ALS MIXED

	Initial	Calibrati	on						
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Arsenic				7.50	7.65	102	7.76	103	7062



INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001

Project Name: Rio Tinto

ICV Source: Inorganic Ventures CCV Source: ALS MIXED

	Initia	l Calibrat	ion		Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method	
Arsenic			Ī	7.50	7.73	103	·		7062	



- 2b -

CRDL STANDARD FOR AA AND ICP

Client: ARCADIS U.S., Inc

Service Request: K1412945

Project No.: UCCO 1646.001

Project Name: Rio Tinto

	CRDL Stand	CRDL Standard for AA			CRDL Standard for ICP Initial Final			
Analyte	True	Found	%R	True	Found	%R	Found	%R
Arsenic	0.50	0.48	96		1			



Metals - 5A -

SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc Service Request: K1412945 Units:

Project No.: UCCO 1646.001

Project Name: Rio Tinto

Basis: NA

UG/L

Matrix: WATER

> Sample Name: Batch QC1S

Lab Code: K1412993-001S

Analyte	Control Limit %R	Spike Result	С	Sample Result	С	Spike Added	%R	Q	Method
Arsenic		23300	Ī	24000		16.00	-4375.0		7062



Metals - 5A -

SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc

Service Request: K1412945 Units:

Project No.: UCCO 1646.001

> Basis: NA

UG/L

Matrix:

Project Name: Rio Tinto

Sample Name: Batch QC2S

WATER

Lab Code: K1412993-001DISSS

Analyte	Control Limit %R	Spike Result	C	Sample Result	С	Spike Added	%R	Q	Method
Arsenic		22300	ĺ	23300		16.00	-6250.0		7062



- 5B -

POST SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc Service Request: K1412945 Units:

Project No.: UCCO 1646.001

UG/L

Project Name: Rio Tinto

Basis: NA

Matrix: WATER

> Sample Name: GWM-6S (20141112)A

Lab Code: K1412945-001A

Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Arsenic	80 - 120	6.3	1.6	5.0	94.0		7062

- 6 -DUPLICATES

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Units: UG/L

Project Name: Rio Tinto Basis: NA

Matrix: WATER

Sample Name: Batch QC1D Lab Code: K1412993-001D

Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q	Method
Arsenic		24000		23300		3.0		7062

- 6 -DUPLICATES

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001 Units: UG/L

Project Name: Rio Tinto Basis: NA

Matrix: WATER

Sample Name: Batch QC2D Lab Code: K1412993-001DISSD

Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q	Method
Arsenic		23300		21300		9.0		7062



- 7 -

LABORATORY CONTROL SAMPLE

Client: ARCADIS U.S., Inc

Project No.: UCCO 1646.001

Project Name: Rio Tinto

Aqueous LCS Source:

ALS MIXED

Solid LCS Source:

Service Request: K1412945

	Aqueous	(ug/L)		Solid (mg/kg)						
Analyte	True	Found	%R	True	Found	С	Limits	%R		
Arsenic	10	9.6	96.0							

dba ALS Environmental

Metals

- 10 -

DETECTION LIMITS

Client: ARCADIS U.S., Inc

Service Request: K1412945

Project No.: UCCO 1646.001

Project Name: Rio Tinto

ICP/ICP-MS ID #:

GFAA ID #: K-FLAA-02

AA ID #:

Analyte	Wave- length (nm)	Back- ground	MRL ug/L	MDL ug/L	М
Arsenic	193.6		0.5	0.1	H



Metals -13-PREPARATION LOG

Client: ARCADIS U.S., Inc Service Request: K1412945

Project No.: UCCO 1646.001

Project Name: Rio Tinto

Method: F

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1412945-001	11/21/14	50.0	50.0
K1412945-001DISS	11/21/14	50.0	50.0
K1412945-002	11/21/14	50.0	50.0
K1412945-002DISS	11/21/14	50.0	50.0
K1412945-003	11/21/14	50.0	50.0
K1412945-003DISS	11/21/14	50.0	50.0
K1412945-004	11/21/14	50.0	50.0
K1412945-004DISS	11/21/14	50.0	50.0
K1412945-005	11/21/14	50.0	50.0
K1412945-005DISS	11/21/14	50.0	50.0
K1412945-006	11/21/14	50.0	50.0
K1412945-006DISS	11/21/14	50.0	50.0
K1412945-007	11/21/14	50.0	50.0
K1412945-007DISS	11/21/14	50.0	50.0
K1412945-008	11/21/14	50.0	50.0
K1412945-008DISS	11/21/14	50.0	50.0
K1412945-MB	11/21/14	50.0	50.0
K1412993-001D	11/21/14	50.0	50.0
K1412993-001DISSD	11/21/14	50.0	50.0
K1412993-001DISSS	11/21/14	50.0	50.0
K1412993-001S	11/21/14	50.0	50.0
LCSW	11/21/14	50.0	50.0

ALS Group USA, Corp.

Metals - 14 -

ANALYSIS RUN LOG
Service Request: K1412945

Project No.: UCCO 1646.001 Run Number: 120414-As1

Project Name: Rio Tinto

ARCADIS U.S., Inc

Client:

Instrument ID Number: K-FLAA-02 Method: H

Start Date: 12/04/14 End Date: 12/04/14

														Ana	ly	tes	5										
Sample No.	D/F	Time	% R	A L	S B	A S	B A	B E	C D	C A	C R	С 0	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	v	Z N	C N
CAL BLK	1.0	09:09				Х																			П	П	
STD 0.5	1.0	09:11				х																					
STD 1.0	1.0	09:13				х																					
STD 5.0	1.0	09:15				х																					
STD 7.5	1.0	09:17				х																					
STD 10.0	1.0	09:20				х																					
ICV	1.0	09:22				х																					
ICB	1.0	09:28				х																					
CRA	1.0	09:30				х																					
ZZZZZZ	1.0	09:33																									
CCV1	1.0	09:35				х																					
CCB1	1.0	09:37				х																					
K1412945-MB	2.0	09:40				х																					
LCSW	2.0	09:42				х																					
K1412945-001	20.0	09:44				х																					
K1412945-001A	1.0	09:46				х																					
K1412945-002	20.0	09:49				х																					
K1412945-003	20.0	09:51				х																					
K1412945-004	20.0	09:53				х																					
K1412945-005	20.0	09:56				х																					
K1412945-006	20.0	09:58				х																					
K1412945-007	2.0	10:00				х																					
CCV2	1.0	10:02				х																					
CCB2	1.0	10:05				х																					
K1412945-008	40.0	10:07				х																					
ZZZZZZ	20.0	10:09																									
K1412945-002DISS	20.0	10:11				х																					
K1412945-003DISS	20.0	10:14				х																					
K1412945-004DISS	20.0	10:16				х																				П	
K1412945-005DISS	20.0	10:18				Х																				П	
K1412945-006DISS	20.0	10:20				Х																				П	
K1412945-007DISS	2.0	10:23				Х																				П	

^{* -} Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

ALS Group USA, Corp.

Metals - 14 -

ANALYSIS RUN LOG
Service Request: K1412945

Project No.: UCCO 1646.001 Run Number: 120414-As1

Project Name: Rio Tinto

ARCADIS U.S., Inc

Client:

Instrument ID Number: K-FLAA-02 Method: H

Start Date: 12/04/14 End Date: 12/04/14

													Ana	ly	tes	5								
Sample No.	D/F	Time	% R	A L	s B	A S	B A	B E	C D	C R	C O	C D			M G		H G	K	S E	A G	N A	V	Z N	C N
K1412945-008DISS	40.0	10:25				X																		
ZZZZZZ	L0,000.	10:27																						
CCV3	1.0	10:29				X																		
CCB3	1.0	10:32				Х																		
K1412993-001D	LO,000.	10:34				X																		
K1412993-001s	LO,000.	10:36				х																		
ZZZZZZ	10,000.	10:38																						
ZZZZZZ	LO,000.	10:41																						
K1412993-001DISSD	LO,000.	10:43				х																		
K1412993-001DISSS	LO,000.	10:45				х																		
ZZZZZZ	LO,000.	10:47																						
ZZZZZZ	2.0	10:49																					Ī	
ZZZZZZ	2.0	10:52																						
ZZZZZZ	100.0	10:54																						
CCV4	1.0	10:56				х																	Ī	
CCB4	1.0	10:58				Х																		
ZZZZZZ	20.0	11:01																						
ZZZZZZ	20.0	11:03																						
ZZZZZZ	20.0	11:05																						
ZZZZZZ	100.0	11:07																				П		T
ZZZZZZ	2.0	11:10																				П		T
ZZZZZZ	2.0	11:12																				П	Πİ	
ZZZZZZ	10.0	11:14																						
ZZZZZZ	2,000.0	11:17																				П		T
ZZZZZZ	4.0	11:19																				П	Πİ	
ZZZZZZ	2,000.0	11:21																				П		
CCV5	1.0	11:23				Х																П		
CCB5	1.0	11:26				Х																П		
ZZZZZZ	2.0	11:28																				П	İ	
ZZZZZZ	100.0	11:30																				П	İ	
ZZZZZZ	100.0	11:32																				П		
ZZZZZZ	20.0	11:34																				П	Πİ	

 $[\]star$ - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

ALS Group USA, Corp.

Metals - 14 -

ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc

Service Request: K1412945

Project No.: UCCO 1646.001

Run Number: 120414-As1

Project Name: Rio Tinto

Instrument ID Number: K-FLAA-02

Method: H

Start Date: 12/04/14 End Date: 12/04/14

_													Ana	.lyt	es	5								
Sample No.	D/F	Time	% R	A L	s B	A S	B A	B E	C D	C R	0	C T		P B	M G		H G	K	S E	A G	N A	V	Z N	C N
ZZZZZZ	20.0	11:37																						
ZZZZZZ	20.0	11:39																						
ZZZZZZ	100.0	11:41																						
ZZZZZZ	2.0	11:43																						
ZZZZZZ	10.0	11:45																						
ZZZZZZ	2,000.0	11:48																						
CCV6	1.0	11:50				Х																		
CCB6	1.0	11:52				Х																		
ZZZZZZ	4.0	11:54																						
ZZZZZZ	2,000.0	11:57																						
ZZZZZZ	2.0	11:59																						
ZZZZZZ	100.0	12:01																						
ZZZZZZ	2.0	12:04																						
ZZZZZZ	2.0	12:06																						
ZZZZZZ	2.0	12:08																						
ZZZZZZ	10.0	12:10																						
ZZZZZZ	2.0	12:12																						
ZZZZZZ	1.0	12:15																						
CCV7	1.0	12:17				х																		
CCB7	1.0	12:19				х																		
ZZZZZZ	2.0	12:21																						
ZZZZZZ	2.0	12:23																						
ZZZZZZ	40.0	12:26																						
ZZZZZZ	10.0	12:28																						
ZZZZZZ	2.0	12:30																						
ZZZZZZ	10.0	12:32												İ								П	Πİ	
ZZZZZZ	2.0	12:35												İ					Ī			П	Πİ	
ZZZZZZ	10.0	12:37																				П	Πİ	
ZZZZZZ	2.0	12:39																				П	Πİ	
ZZZZZZ	2.0	12:42												İ								П	İ	
CCV8	1.0	12:44				х																П		
CCB8	1.0	12:46				х								j					Ì			П	Πİ	

 $[\]star$ - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

ALS Group USA, Corp.

Metals - 14 -

ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc

Service Request: K1412945

Project No.: UCCO 1646.001

120414-As1

Project Name: Rio Tinto

Instrument ID Number: K-FLAA-02

Method: H

Start Date: 12/04/14

End Date: 12/04/14

Run Number:

	<u> </u>												Ana	ıly	tes	3										
Sample No.	D/F	Time	L	A L	S B	A S	B A	B E	C D	C A	C R	C 0	F E	P B	M G	M	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
ZZZZZZ	2.0	12:48																								
ZZZZZZ	40.0	12:51																								
ZZZZZZ	10.0	12:53																								
ZZZZZZ	2.0	12:55																								
ZZZZZZ	10.0	12:57																								
ZZZZZZ	20.0	12:59																								
ZZZZZZ	2.0	13:02																								
K1412945-001DISS	2.0	13:04				X																				
CCV9	1.0	13:06				X																				
CCB9	1.0	13:08				х																				

 $[\]star$ - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



Raw Data

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com



Metals

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

Preparation Information Benchsheet

Prep Run: 224036

Prep Workflow: MetDig3010A

Status: Prepped

Prep Date: 11/21/2014 11:25

Team:

Metals

Prep Method:

Current Step: Digestion

Due Date: 11/26/2014

Analyst:

Anna Cheatley

Rush/NPDES:

N/A

EPA 3010A

Hold Date: 05/11/2015

				*	Spike Ame	***	restivo List	Comments
KQ1415305-01	Method Blank		50 mL	50 mL			As D, AS_T	6%HNO3,5%HCI
KQ1415305-02	Lab Control Sample		50 mL	50 mL	0.2 mL	74484	As D, AS_T	6%HNO3,5%HCI
K1412945-001	GWM-6S (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412945-001	GWM-6S (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412945-002	GWM-13D (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412945-002	GWM-13D (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412945-003	GWM-5S (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412945-003	GWM-5S (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412945-004	GWM-5D (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412945-004	GWM-5D (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412945-005	GWM-4S (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412945-005	GWM-4S (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412945-006	GWM-4D (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412945-006	GWM-4D (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412945-007	FB-02 (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412945-007	FB-02 (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412945-008	GWM-2B (20141114)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412945-008	GWM-2B (20141114)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412993-001	GWM-8B (20141117)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412993-001	GWM-8B (20141117)	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412993-001: KQ1415305-03	Duplicate	.02	50 mL	50 mL			AS_T	6%HNO3,5%HCI
K1412993-001: KQ1415305-05	Duplicate	.01	50 mL	50 mL			As D	6%HNO3,5%HCI
K1412993-001: KQ1415305-04	Matrix Spike	.02	50 mL	50 mL	0.2 mL	73067	AS_T	6%HNO3,5%HCI
K1412993-001:	Matrix Spike	.01	50 mL	50 mL	0.2 mL	73067	As D	6%HNO3,5%HC
KQ1415305-06								

K1412993-002	Dup-03 (20141117)	.01	50 mL	50 mL		As D	6%HNO3,5%HCI
16 Total Sam with the curre	ples consisting of 10 ent Prep Run.) Client S	Samples, 4	Client QC S	amples, 2 Ba	tch QC Samp	les associated

Spiking Solutions

Name	Туре	ID	Expires	Name	Type	ID	Expires
K-MET GFLCSW	Spike	74484	2/1/2015	K-MET SS2	Spike	73067	12/20/2014

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET HNO3	75020	Digestion	K-MET 50ml Centrifuge Tube	76731
Digestion	K-MET HCL	76516			

Preparation Hardware / Equipment

Step	Name	Property	Value		Step	Name	Property	Value	
II)IGESTION		Thermometer ID 1134195	97	deg C	HUIDESTIAN	K-HotPlate- 06	Thermometer ID 1134275	96	deg C
II NORSTION	K-HotPlate- 03	Thermometer ID 1134442	96	deg C	Canada and Anna and A				

Preparation Steps

<u>Step</u>	<u>Started</u> 21-NOV-14	Finished	By	Assisted By	<u>Training?</u>	Comments
Digestion	11:25	14:53	Anna Cheatley		N	

Comments

Thermometer ID 1134195 Observed temperature=97C. Correction factor=0. Corrected temperature=97C. Thermometer ID 1134442 Observed temperature=96C. Correction factor=0. Corrected temperature=96C. Thermometer ID 1134275 Observed temperature=96C. Correction factor=0. Corrected temperature=96C.

Re	>\/	i۵	LA!
0 # #	~ ₩	-	44

Reviewed by:	Date:	11125/14
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	T		·		·
Solution		mLs of 1000ppm	Final	Solution	Enter mls
Name	Element	Solution	Volume	Conc. mg/L	Added
	HNO3	50.0	1000ml	-	
	A!	100*	1000ml	200	
	Ag	100*	1000ml	5	
	Ba	100*	1000ml	200	
	Be	100*	1000ml	5	
	Cd	100*	1000ml	5	
	Co	100*	. 1000ml	50	
K-MET SS1	Cr	100*	1000ml	20	
	Cu	100*	1000ml	25	
	Fe	100*	1000ml	100	
	Pb	100*	1000 ml	50	
*** Add after HNO3	Mn	100*	1000ml	50	
and before cas cal	Ni	100*	1000ml	50	
-14	Sb***	50	1000ml	50	
when making the	V	100*	1000ml	50	
solution	Zn	100*	1000ml	50	
	HNO3	25.0	500ml	-	
K-MET SS2	As	2.0	500ml	4	
	Cd	2.0	500ml	4	
	Pb	2.0	500ml	4	
	Se	2.0	500mJ	4	
	n	2.0	500ml	4	i
	Cu	2.0	500ml	4	
IZ MET CC2	IDIO	25.0			
K-MET SS3	HNO3	25.0	500ml	-	
	As	50,0	500ml	100	
	Se	50.0	500ml	100	
	T)	50,0	500ml	100	
	Hg HNO3	6	500	12	
K-MET SS4	B B	25	500ml	-	
K-ME1 554	Mo	50	500ml	100	
	MIG	50	500ml	100	
K-MET SS5	HNO3	. 10.0	200ml	-	
	K**	20	200ml	1000	
	Na**	20	200ml	1000	
	Mg**	20	200ml	1000	
	Ca**	20	200ml	1000	
K-MET GFLCSW	HNO3	10.0	1000ml	-	
	As, Pb, Se, Tl	5.0	1000ml	2.5	l

K-MET GFLCSW	HNO3	10,0	1000ml	-	
	As, Pb, Se, Tl	5.0	1000ml	2.5	
	Cd	-	-	1.25	
	Cu	2.5	1000ml	2.5	
K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	·	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
	Be	no dilution	-	25	
K-MET QCP-CICV-2	Sb	no dilution	÷	500	
K-MET QCP-CICV-3	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

* Denotes volume of mixed stock standard.

** Denotes 10,000 ppm individual stock standards.

	mls of			
Standard	standard	ppm	Logbook #	Exp. Date
www.com.com.com.com.com.com.com.com.com.com				
	-			

Element Analyzed:	Se Hydride	Instrument: K-	FLAA-02	
Service Request #:				3380
·				
Batch QC SR's #:	K1412993, K	1413402, K1413	· · · · · · · · · · · · · · · · · · ·	NIS PARAMENTE RECORDED AND AN ARCHITECTURE AND ARCHITECTU
Calibration Std.:	AA1-16-D	_Expiration Date	: 4/2/	<u>′2015</u>
2 nd Source Std.:	AA1-16-C	_Expiration Date	:1/18	/2015
Starlims #:		424209		
Run #:	1;	20414-As1	Beddinge - process for a geographic depolation and proper an accompany of the second section of the section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of the second section of the second section of the second section of the section of t	
Hy 1 ICV within 10% of to 2. Calibration data incommon 3. CCV's in control 4. CCB's and/or ICB's 5. All reported Results 6. All Calculations are Comments	rue Value luded below MRL within Cal. Rang	Yes X X X X X X X X X X X	No	NA
Primary Reviewed by:	BIS	_ Date:	12/4/14	

Date: 12/4/14

COLUMBIA ANALYTICAL SERVICES, INC. FAA Run Log

Method: (Circle Method Used)	Service Request #:
7742 2062	
Other:	
Element As Se	

SAMPLE	Dilution	Measured	Recoveries	Comments
NUMBER	Factor	(μg/L)	(ICV, CCV, CRA, LCS,	
The second secon			Matrix Spk.)	Post Spike = 5 ppb
Cal. Blk	-	0.000		
Cal. Std 0.5	-	0.500	*(0.025-50ml)	*Cal. Std = AA1-16-D
Cal. Std 1.0	-	1.000	*(0.05-50ml)	
Cal. Std 5.0	-	5.000	*(0.25-50ml)	
Cal. Std 7.5	-	7.500	*(0.375-50ml)	
Cal. Std 10.0	-	10.000	*(0.5-50ml)	
ICV	-	7.485	100%	ICV Std = AA1-16-C
ICB	-	0.047		
CRA	-	0.483	97%	
CCV	-	6.692	89%	
CCV	-	7.191	96%	
ССВ	_	0.050		
K1412945-MB	1/2	0.006		
LCSWK1412945	1/2	4.808	96%	
K1412945-001	1/2*1/10	1.594		
K1412945-001A	1/2*1/10	6.301	94%	
K1412945-002	1/2*1/20	1.962		
K1412945-003	1/2*1/20	2.311		
K1412945-004	1/2*1/10	2.923		
K1412945-005	1/2*1/10	1.582		
K1412945-006	1/2*1/10	3.229		
K1412945-007	1/2	0.021		
CCV	Mar .	7.128	95%	
ССВ	-	0.058		
K1412945-008	1/2*1/20	3.087		
K-14-12945-001DISS	1/2*1/10		7655 12-444	
K1412945-002DISS	1/2*1/20	1.548		
K1412945-003DISS	1/2*1/20	2.146		
K1412945-004DISS	1/2*1/10	2.594		
K1412945-005DISS	1/2*1/10	1.162		

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D0455	40) Soil Spike
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	99.6mg/kg (70-130%)	40ppb (75-125%)
Selenium	10ppb (80-120%)	16ppb (75-125%)	150mg/kg (68-132%)	40ppb (75-125%)
Cx = MSA Corrected Concer	ntration (as per metl	nod)		

Analyst	Date:	Page Number:
	12/4/14	1

COLUMBIA ANALYTICAL SERVICES, INC. FAA Run Log

Method: (Circle Method Used)	Service Request #:
7742 (7062)	
Other:	
Element: As Se	

SAMPLE	Dilution	Measured	Recoveries	Comments
NUMBER	Factor	$(\mu g/L)$	(ICV, CCV, CRA, LCS,	
			Matrix Spk.)	Post Spike = 5 ppb
K1412945-006DISS	1/2*1/10	2.857		
K1412945-007DISS	1/2	0.086		
K1412945-008DISS	1/2*1/20	3.398		
K1412993-001	1/2*1/5000	2.403		
CCV	-	7.019	94%	
ССВ		0.058		
K1412993-001D	1/2*1/5000	2.328		
K1412993-001S	1/2*1/5000	2.333	Sample is 4X	
K1412993-002	1/2*1/5000	2.393		
K1412993-001DISS	1/2*1/5000	2.329		
K1412993-001DDISS	1/2*1/5000	2.129		
K1412993-001SDISS	1/2*1/5000	2.226	Sample is 4X	
K1412993-002DISS	1/2*1/5000	2.815		
K1413402-MB	1/2	0.017		
LCSWK1413402	1/2	4.886	98%	
K1413402-001	1/2*1/50	2.121		
CCV	_	7.665	102%	
ССВ	-	0.075		
K1413402-002	1/2*1/10	2.872		
K1413402-002D	1/2*1/10	2.811		
K1413402-002S	1/2*1/10	3.483	76%	
K1413402-003	1/2*1/50	2.119		
K1413402-004	1/2	0.115		
K1413402-004A	1/2	4.835	97%	
K1413402-005	1/2*1/5	1.668		
K1413402-006	1/2*1/1000	1.889		
K1413402-007	1/2*1/2	1.962		
K1413402-008	1/2*1/1000	2.711		
CCV		7.727	103%	
ССВ	-	0.081		

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D04554	0) Soil Spike
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	146.0mg/kg (80-120%)	20ppb (75-125%)
Selenium	10ppb (80-120%)	16ppb (75-125%)	192.0mg/kg (62-147%)	20ppb (75-125%)
Cx = MSA Corrected Concer	ntration (as per metl	nod)		

Analyst	Date:	Page Number:
Com The	12/4/19	2

COLUMBIA ANALYTICAL SERVICES, INC. FAA Run Log

Method: (Circle Method Used)	Service Request # :
7742 (7062)	
Other:	
Element: As Se	

SAMPLE	Dilution	Measured	Recoveries	Comments
NUMBER	Factor	$(\mu g/L)$	(ICV, CCV, CRA, LCS,	
			Matrix Spk.)	Post Spike = 5 ppb
K1413402-009	1/2	0.130		
K1413402-010	1/2*1/50	2.013		
K1413402-001DISS	1/2*1/50	2.431		
K1413402-002DISS	1/2*1/10	2.617		
K1413402-002DDISS	1/2*1/10	2.752	·	
K1413402-002SDISS	1/2*1/10	3.440	103%	
K1413402-003DISS	1/2*1/50	2.517		
K1413402-004DISS	1/2	0.094		
K1413402-005DISS	1/2*1/5	1.361		
K1413402-006DISS	1/2*1/1000	2.020		
CCV		7.677	102%	
ССВ	-	0.079		
K1413402-007DISS	1/2*1/2	1.552		
K1413402-008DISS	1/2*1/1000	2.338		
K1413402-009DISS	1/2	0.084		
K1413402-010DISS	1/2*1/50	1.547		
K1413380-MB	1/2	0.011		
LCSWK1413380	1/2	4.922	98%	
K1413380-001	1/2	0.193		
K1413380-002	1/2*1/5	1.764		
K1413380-003	1/2	0.541		
K1413380-003A	1/2	5.193	95%	
CCV	-	7.650	102%	
ССВ	-	0.095		
K1413380-003D	1/2	0.473		
K1413380-003S	1/2	8.533	101%	
K1413380-004	1/2*1/20	2.182		
K1413380-005	1/2*1/5	2.154		
K1413380-006	1/2	0.047		
K1413380-007	1/2*1/5	1.977		

LCSS (ERA D045540) Soil Spike Water Spike LCSW True Values/QC Limits: 10ppb (80-120%) 16ppb (75-125%) 146.0mg/kg (80-120%) 20ppb (75-125%) Arsenic: 10ppb (80-120%) 16ppb (75-125%) 192.0mg/kg (62-147%) 20ppb (75-125%) Selenium $C_X = MSA$ Corrected Concentration (as per method)

Analyst	Date:	Page Number:
Sin Ill	12/4/14	3

COLUMBIA ANALYTICAL SERVICES, INC. FAA Run Log

Method: (Circle Method Used)	Service Request #:
7742 7062	
Other:	
Element: As Se	

	SAMPLE	Dilution	Measured	Recoveries	Comments
	NUMBER	Factor	$(\mu g/L)$	(ICV, CCV, CRA, LCS,	Doot Cailco as 5 muh
			A 3 A 1	Matrix Spk.)	Post Spike = 5 ppb
	K1413380-001DISS	1/2	0.134		
	K1413380-002DISS	1/2*1/5	1.608		
	K1413380-003DISS	1/2	0.433		
	K1413380-003DDISS	1/2	0.386		
	CCV	-	7.756	103%	
	CCB		0.103		
	K1413380-003SDISS	1/2	8.170	97%	
	K1413380-004DISS	1/2*1/20	2.238		
	K1413380-005DISS	1/2*1/5	2.597		
	K1413380-006DISS	1/2	0.019		
	K1413380-007DISS	1/2*1/5	1.808		
MIS	K1412945-001DISS	1/2*1/10	0.025		
VZMI	K1413380-003	1/2	0.436		
	K1412945-001DISS	1/2	0.182		
	CCV	-	7.729	103%	
	ССВ	_	0.072		
	A SECTION OF THE PROPERTY OF T				
	And the second s				

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D04554	0) Soil Spike
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	146.0mg/kg (80-120%)	20ppb (75-125%)
Selenium	10ppb (80-120%)	16ppb (75-125%)	192.0mg/kg (62-147%)	20ppb (75-125%)
Cx = MSA Corrected Concer	ntration (as per metl	nod)		

Analyst	Date:	Page Number:
But	12/4/19	4

Analysis Begun

Logged In Analyst: ALKLS.ALKLSXP315 Technique: AA FIAS-Flame Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90

Sample Information File: C:\data-AA\ACQMET10\Sample Information\120414-As1.sif

Batch ID: 120414-As1

Results Data Set: 120414-As1

Results Library: C:\data-AA\ACQMET10\Results\Results Se 2013.mdb

Sequence No.: 1 Autosampler Location: 1

Sample ID: Cal Blk Date Collected: 12/4/2014 9:09:02 AM

Analyst: Data Type: Original

Replicate Data: Cal Blk										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored	
1	5.	[0.00]	0.003	-0.007	0.003			09:09:18	Yes	
2		[0.00]	0.001	-0.012	0.001			09:09:52	Yes	
3		[0.00]	0.002	0.005	0.002			09:10:26	Yes	
Mean:		[0.00]	0.002							
SD:		0.00	0.0008							
%RSD:		0.00	38.71							

Auto-zero performed.

Sequence No.: 2 Autosampler Location: 2

Sample ID: Std 0.5 Date Collected: 12/4/2014 9:11:14 AM

Analyst: Data Type: Original

Replicate Data: Std 0.5											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	J.	[0.5]	0.027	0.098	0.029			09:11:31	Yes		
2		[0.5]	0.028	0.093	0.030			09:12:05	Yes		
3		[0.5]	0.027	0.096	0.029			09:12:39	Yes		
Mean:		[0.5]	0.027								
SD:		0.0	0.0006								
%RSD:		0.0	2.30								
Standa	ard number 1	applied. [[0.5]								
Correl	ation Coef.:	1.000000	Slope: 0	.05422	Interce	pt: 0.000	00				

Sequence No.: 3 Autosampler Location: 3

Sample ID: Std 1.0 Date Collected: 12/4/2014 9:13:28 AM

Analyst: Data Type: Original

Replicate Data: Std 1.0											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	-	[1.0]	0.053	0.176	0.055			09:13:45	Yes		
2		[1.0]	0.053	0.176	0.055			09:14:19	Yes		
3		[1.0]	0.052	0.182	0.055			09:14:53	Yes		
Mean:		[1.0]	0.053								
SD:		0.0	0.0004								
%RSD:		0.0	0.76								
Standa	Standard number 2 applied. [1.0]										
Correl	ation Coef.:	0.999361	Slope: 0.	.05303	Intercept: 0.00000						

Sequence No.: 4 Autosampler Location: 4

Date Collected: 12/4/2014 9:15:42 AM

Sample ID: Std 5.0 Date Collected: 12/Analyst: Data Type: Original

Replic	Replicate Data: Std 5.0											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	-	[5.0]	0.249	0.853	0.252			09:16:00	Yes			
2		[5.0]	0.250	0.849	0.252			09:16:34	Yes			
3		[5.0]	0.250	0.855	0.252			09:17:08	Yes			
Mean:		[5.0]	0.250									
SD:		0.0	0.0004									
%RSD:		0.0	0.16									
Standa	rd number 3	applied. [5.0]									
Correl	ation Coef .:	0.999812	Slope: 0	.05014	Intercep	ot: 0.000	00					

Sequence No.: 5 Autosampler Location: 5

Sample ID: Std 7.5 Date Collected: 12/4/2014 9:17:58 AM

Analyst: Data Type: Original

Poplicate Data: Std 7 5

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	J .	[7.5]	0.367	1.260	0.369			09:18:16	Yes
2		[7.5]	0.368	1.261	0.370			09:18:50	Yes
3		[7.5]	0.373	1.277	0.375			09:19:24	Yes
Mean:		[7.5]	0.370						
SD:		0.0	0.0033						
%RSD:		0.0	0.88						
Standa	ard number 4	applied. [7.5]						
Correl	ation Coef.:	0.999852	Slope: 0	.04955	Interce	ot: 0.000	00		

Sequence No.: 6 Autosampler Location: 6

Sample ID: Std 10.0 Date Collected: 12/4/2014 9:20:15 AM

Analyst: Data Type: Original

Replicate Data: Std 10.0										
Repl	SampleConc	StndCond	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	J ,	[10.0]	0.480	1.632	0.482			09:20:34	Yes	
2		[10.0]	0.471	1.614	0.473			09:21:08	Yes	
3		[10.0]	0.475	1.634	0.477			09:21:41	Yes	
Mean:		[10.0]	0.475							
SD:		0.0	0.0042							
%RSD:		0.0	0.89							
Standa	rd number 5	applied.	[10.0]							
	and the same of th			0 0 4 0 4 5			0.0			

Correlation Coef.: 0.999340 Slope: 0.04847 Intercept: 0.00000

The calibration curve may not be linear.

Galibertian data for Mg 103 70 Equation: Linear Through Zero

Calibration data for	or As 193.70		Equa-	tion: Linear	Through zero
		Entered	Calculated		
	Mean Signal	Conc.	Conc.	Standard	
ID	(Abs)	ug/L	ug/L	Deviation	%RSD
Cal Blk	0.0000	0	0.0000	0.00	38.7
Std 0.5	0.0271	0.5	0.5594	0.00	2.3
Std 1.0	0.0527	1.0	1.0879	0.00	0.8
Std 5.0	0.2499	5.0	5.1565	0.00	0.2
Std 7.5	0.3696	7.5	7.6257	0.00	0.9
Std 10.0	0.4753	10.0	9.8068	0.00	0.9
Correlation Coef.:	0.999340 Slope	: 0.04847	Intercep [*]	t: 0.00000	

Sequence No.: 7 Autosampler Location: 7

Sample ID: ICV Date Collected: 12/4/2014 9:22:32 AM

Analyst: Data Type: Original

Replic	ate Data: IC	:V							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.532	7.532	0.365	1.258	0.367			09:22:52	Yes
2	7.398	7.398	0.359	1.240	0.361			09:23:26	Yes
3	7.526	7.526	0.365	1.247	0.367			09:24:01	Yes
Mean:	7.485	7.485	0.363						
SD:	0.0756	0.0756	0.0037						

1.011 1.01 QC value within limits for As 193.70 Recovery = 99.80%

All analyte(s) passed QC. User canceled analysis.

Analysis Begun

%RSD: 1.011

Logged In Analyst: ALKLS.ALKLSXP315 Technique: AA FIAS-Flame Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90

Sample Information File: C:\data-AA\ACQMET10\Sample Information\120414-As1.sif

Batch ID: 120414-As1

Results Data Set: 120414-As1

Results Library: C:\data-AA\ACQMET10\Results\Results Se 2013.mdb

Autosampler Location: 1 Sequence No.: 8

Date Collected: 12/4/2014 9:28:39 AM Sample ID: ICB

Analyst: Data Type: Original

Repli	ate Data: IC SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.0734	0.0734	0.004	0.028	0.006			09:28:55	Yes
2	0.0516	0.0516	0.002	0.027	0.005			09:29:29	Yes
3	0.0148	0.0148	0.001	0.010	0.003			09:30:03	Yes
Mean:	0.0466	0.0466	0.002						
SD:	0.0296	0.0296	0.0014						

%RSD: 63.54 63.54 63.54 QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC.

Autosampler Location: 2 Sequence No.: 9

Date Collected: 12/4/2014 9:30:51 AM Sample ID: CRA

Data Type: Original Analyst:

Replicate Data: CRA										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	0.4925	0.4925	0.024	0.089	0.026			09:31:07	Yes	
2	0.4785	0.4785	0.023	0.090	0.025			09:31:41	Yes	
3	0.4780	0.4780	0.023	0.089	0.025			09:32:15	Yes	
Mean:	0.4830	0.4830	0.023							
SD:	0.0083	0.0083	0.0004							
%RSD:	1.708	1.708	1.71							

QC value within limits for As 193.70 Recovery = 96.60%

All analyte(s) passed QC.

Sequence No.: 10 Autosampler Location: 5

Date Collected: 12/4/2014 9:33:04 AM Sample ID: CCV

Data Type: Original Analyst:

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	6.705	6.705	0.325	1.113	0.327			09:33:22	Yes
2	6.705	6.705	0.325	1.116	0.327			09:33:56	Yes
3	6.666	6.666	0.323	1.120	0.325			09:34:29	Yes
Mean:	6.692	6.692	0.324						
SD:	0.0229	0.0229	0.0011						
%RSD:	0.3422	0.3422	0.34						
QC	value less	than the lo	wer limit	for As 19	3.70 Red	covery =	89.23%		
QC Fai	led. Stop	the analysi	S.						

Analysis Begun

Logged In Analyst: ALKLS.ALKLSXP315 Technique: AA FIAS-Flame Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90

Sample Information File: C:\data-AA\ACQMET10\Sample Information\120414-As1.sif

Batch ID: 120414-As1

User canceled analysis.

Results Data Set: 120414-As1

Results Library: C:\data-AA\ACQMET10\Results\Results Se 2013.mdb

Autosampler Location: 5 Sequence No.: 10

Date Collected: 12/4/2014 9:35:36 AM Sample ID: CCV

Data Type: Original Analyst:

Replicate Data: CCV

SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
7.133	7.133	0.346	1.202	0.348			09:35:53	Yes
7.187	7.187	0.348	1.205	0.351			09:36:27	Yes
7.252	7.252	0.351	1.216	0.354			09:37:01	Yes
7.191	7.191	0.349						
0.0594	0.0594	0.0029						
	ug/L 7.133 7.187 7.252 7.191	rug/L ug/L 7.133 7.133 7.187 7.187 7.252 7.252 7.191 7.191	ug/L ug/L Signal 7.133 7.133 0.346 7.187 7.187 0.348 7.252 7.252 0.351 7.191 7.191 0.349	ug/L ug/L Signal Area 7.133 7.133 0.346 1.202 7.187 7.187 0.348 1.205 7.252 7.252 0.351 1.216 7.191 7.191 0.349	ug/L ug/L Signal Area Height 7.133 7.133 0.346 1.202 0.348 7.187 7.187 0.348 1.205 0.351 7.252 7.252 0.351 1.216 0.354 7.191 7.191 0.349	ug/L ug/L Signal Area Height Area 7.133 7.133 0.346 1.202 0.348 7.187 7.187 0.348 1.205 0.351 7.252 7.252 0.351 1.216 0.354 7.191 7.191 0.349	ug/L Signal Area Height Area Height 7.133 7.133 0.346 1.202 0.348 7.187 7.187 0.348 1.205 0.351 7.252 7.252 0.351 1.216 0.354 7.191 7.191 0.349	ug/L ug/L Signal Area Height Height 7.133 7.133 0.346 1.202 0.348 09:35:53 7.187 7.187 0.348 1.205 0.351 09:36:27 7.252 7.252 0.351 1.216 0.354 09:37:01 7.191 7.191 0.349 0.349

0.83 %RSD: 0.8256 QC value within limits for As 193.70 Recovery = 95.88%

0.8256

All analyte(s) passed QC.

Autosampler Location: 1

Sequence No.: 11

Date Collected: 12/4/2014 9:37:52 AM Sample ID: CCB

Data Type: Original Analyst:

Replicate Data: CCB

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.0862	0.0862	0.004	0.023	0.006			09:38:08	Yes
2	0.0407	0.0407	0.002	0.007	0.004			09:38:42	Yes
3	0.0218	0.0218	0.001	0.003	0.003			09:39:16	Yes
Mean:	0.0496	0.0496	0.002						
SD:	0.0331	0.0331	0.0016						

66.78 66.78 %RSD: 66.78 QC value within limits for As 193.70 Recovery = Not calculated

All analyte(s) passed QC.

Autosampler Location: 9 Sequence No.: 12

Date Collected: 12/4/2014 9:40:05 AM Sample ID: K1412945-MB

Data Type: Original Analyst:

Replicate Data: K1412945-MB

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1		0.0103	0.000	0.006	0.003			09:40:21	Yes

Date: 12/4/2014 1:11:23 PM Page Method: As Hydride 0.0005 0.000 09:40:55 -0.004 0.002 Yes 2 0.0005 09:41:29 Yes 0.0081 0.0081 0.000 0.007 0.003 3 Mean: 0.0063 0.0063 0.000 0.0051 0.0051 0.0002 81.30 81.30 %RSD: 81.30 Autosampler Location: 10 Sequence No.: 13 Date Collected: 12/4/2014 9:42:18 AM Sample ID: LCSWK1412945 Data Type: Original Analyst: _______ Replicate Data: LCSWK1412945 Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak ug/L Signal Area
4.793 0.232 0.805
4.831 0.234 0.813
4.802 0.233 0.817
4.808 0.233 Stored Height Area Height # ug/L 0.805 09:42:34 Yes 0.234 1 4.793 0.813 0.236 0.817 0.235 09:43:08 Yes 4.831 2 09:43:42 Yes 3 4.802 Mean: 4.808 0.0197 0.0010 0.0197 SD: %RSD: 0.4106 0.4106 0.41 _______ Autosampler Location: 11 Sequence No.: 14 Sample ID: K1412945-001 Date Collected: 12/4/2014 9:44:31 AM Analyst: Data Type: Original ______ Replicate Data: K1412945-001 Peak Time Bkgnd Bkgnd Repl SampleConc StndConc BlnkCorr Peak Peak ug/L Signal Area Height
1.617 0.078 0.278 0.081
1.594 0.077 0.271 0.079
1.571 0.076 0.268 0.078
1.594 0.077 Height Area Stored Height # ug/L 09:44:49 1.617 Yes 1 1.594 09:45:23 Yes 2 09:46:01 3 1.571 Mean: 1.594 0.0233 0.0011 0.0233 SD: 1.464 1.46 %RSD: 1.464 _______ Autosampler Location: 12 Sequence No.: 15 Date Collected: 12/4/2014 9:46:55 AM Sample ID: K1412945-001A Data Type: Original Analyst: ______ Replicate Data: K1412945-001A Bkgnd Bkgnd Time SampleConc StndConc BlnkCorr Peak Peak Height Area ug/L ug/L Signal Area Height Stored # 1.067 0.307 09:47:14 Yes 6.289 0.305 1 6.289 6.303 0.305 1.065 0.308 09:47:49 Yes 2 6.303 0.306 6.312 1.084 0.308 09:48:23 Yes 6.312 3 Mean: 6.301 6.301 0.305 0.0114 0.0006 0.0114 0.1809 0.18 %RSD: 0.1809 Autosampler Location: 13 Sequence No.: 16

Date Collected: 12/4/2014 9:49:23 AM Sample ID: K1412945-002

Data Type: Original Analyst:

Replic	ate Data: Kl	412945-002							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.987	1.987	0.096	0.342	0.099			09:49:41	Yes
2	1.958	1.958	0.095	0.327	0.097			09:50:15	Yes
3	1.940	1.940	0.094	0.327	0.096			09:50:49	Yes
Mean:	1.962	1.962	0.095						
SD:	0.0240	0.0240	0.0012						
%RSD:	1.222	1.222	1.22						

Sequence No.: 17 Autosampler Location: 14

Date Collected: 12/4/2014 9:51:40 AM Sample ID: K1412945-003

Data Type: Original Analyst:

Replicate Data: K1412945-003

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
11	ug/L	ug/ ii	Signar		nergnc	ALCa	11G1G11C		
1	2.280	2.280	0.110	0.392	0.113			09:51:58	Yes
2	2.330	2.330	0.113	0.391	0.115			09:52:32	Yes
3	2.322	2.322	0.113	0.382	0.115			09:53:06	Yes
Mean:	2.311	2.311	0.112						
SD:	0.0272	0.0272	0.0013						
%RSD:	1.178	1.178	1.18						

Sequence No.: 18

Autosampler Location: 15

Date Collected: 12/4/2014 9:53:57 AM Sample ID: K1412945-004 Data Type: Original

Analyst:

Replicate Data: K1412945-004

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.892	2.892	0.140	0.490	0.142			09:54:16	Yes
2	2.906	2.906	0.141	0.492	0.143			09:54:50	Yes
3	2.970	2.970	0.144	0.504	0.146			09:55:24	Yes
Mean:	2.923	2.923	0.142						
SD:	0.0414	0.0414	0.0020						
%RSD:	1.417	1.417	1.42						

Sequence No.: 19 Autosampler Location: 16

Date Collected: 12/4/2014 9:56:15 AM Sample ID: K1412945-005

Analyst:

Replicate Data: K1412945-005

TOPTIO					•		ma 3 3	·	355 3
Repl	SampleConc	StndConc	${ t BlnkCorr}$	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.628	1.628	0.079	0.281	0.081			09:56:35	Yes
2	1.583	1.583	0.077	0.268	0.079			09:57:08	Yes
3	1.536	1.536	0.074	0.265	0.077			09:57:42	Yes
Mean:	1.582	1.582	0.077						
SD:	0.0456	0.0456	0.0022						
%RSD:	2.884	2.884	2.88						

Sequence No.: 20

Autosampler Location: 17 Sample ID: K1412945-006

Analyst:

Date Collected: 12/4/2014 9:58:34 AM

Data Type: Original

Data Type: Original

Replicate Data: K1412945-006

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	3.225	3.225	0.156	0.548	0.158			09:58:50	Yes
2	3.247	3.247	0.157	0.551	0.160			09:59:24	Yes
3	3.216	3.216	0.156	0.552	0.158			09:59:57	Yes
Mean:	3.229	3.229	0.157						
SD:	0.0160	0.0160	0.0008						

Sequence No.: 21

%RSD: 0.4968

Sample ID: K1412945-007

0.50

0.4968

Analyst:

Date Collected: 12/4/2014 10:00:46 AM

Autosampler Location: 18

Data Type: Original

Replicate Data: K1412945-007											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	0.0357	0.0357	0.002	0.009	0.004			10:01:02	Yes		
2	0.0301	0.0301	0.001	0.018	0.004			10:01:36	Yes		
3	-0.0039	-0.0039	-0.000	-0.003	0.002			10:02:09	Yes		
Mean:	0.0206	0.0206	0.001								
SD:	0.0214	0.0214	0.0010								
%RSD:	104.0	104.0	103.96								

Autosampler Location: 5 Sequence No.: 22

Date Collected: 12/4/2014 10:02:58 AM Sample ID: CCV

Data Type: Original Analyst:

Replicate Data: CCV											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	7.119	7.119	0.345	1.201	0.347			10:03:16	Yes		
2	7.114	7.114	0.345	1.210	0.347			10:03:50	Yes		
3	7.151	7.151	0.347	1.207	0.349			10:04:23	Yes		
Mean:	7.128	7.128	0.345								
SD:	0.0200	0.0200	0.0010								
%RSD:	0.2799	0.2799	0.28								
QC	value within	limits fo	r As 193.70	Recove	ery = 95.0	4%					

All analyte(s) passed QC.

Autosampler Location: 1 Sequence No.: 23

Date Collected: 12/4/2014 10:05:14 AM Sample ID: CCB

Data Type: Original Analyst:

Replic	Replicate Data: CCB											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	0.1003	0.1003	0.005	0.029	0.007			10:05:30	Yes			
2	0.0467	0.0467	0.002	0.015	0.004			10:06:04	Yes			
3	0.0273	0.0273	0.001	0.009	0.004			10:06:37	Yes			
Mean:	0.0581	0.0581	0.003									
SD:	0.0378	0.0378	0.0018									
%RSD:	65.13	65.13	65.13									

QC value within limits for As 193.70 Recovery = Not calculated

All analyte(s) passed QC.

Autosampler Location: 19 Sequence No.: 24

Date Collected: 12/4/2014 10:07:26 AM Sample ID: K1412945-008

Analyst: Data Type: Original

Replicate Data: K1412945-008											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	3.079	3.079	0.149	0.530	0.151			10:07:42	Yes		
2	3.073	3.073	0.149	0.520	0.151			10:08:16	Yes		
3	3.109	3.109	0.151	0.533	0.153			10:08:50	Yes		
Mean:	3.087	3.087	0.150								
SD:	0.0189	0.0189	0.0009								
%RSD:	0.6137	0.6137	0.61								

Sequence No.: 25

Autosampler Location: 20 Sample ID: K1412945-001DISS

Analyst:

Date Collected: 12/4/2014 10:09:38 AM

Data Type: Original

Peak

Repl

Replicate Data: K1412945-001DISS Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Height Area Height Time Peak Bkgnd Peak Signal Area -0.66 Stored # uq/L ug/L -0.664 -0.011 10:09:55 Yes -0.2665 -0.013 1 -0.2665 -0.050 0.001 -0.0287 -0.0287 -0.001 10:10:29 Yes 2 10:11:02 Yes -0.1965 -0.1965 -0.010 -0.191 -0.007 Changing BOC Mean: -0.1639 -0.1639 -0.008 0.1222 0.0059 0.1222 SD: %RSD: 74.55 74.55 74.55 Changing BOC Autosampler Location: 21 Sequence No.: 26 Date Collected: 12/4/2014 10:11:51 AM Sample ID: K1412945-002DISS Data Type: Original Analyst: Replicate Data: K1412945-002DISS Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Peak Stored ug/L Signal Area Height Area # ug/L Height 1.578 0.076 1.538 0.075 1.528 0.074 1.548 0.075 0.0261 0.0013 0.241 0.079 0.248 0.077 0.216 0.076 10:12:08 Yes 1 1.578 1.538 10:12:42 Yes 2 10:13:16 Yes 3 1.528 Mean: 1.548 SD: 0.0261 1.688 %RSD: 1.688 1.69 Autosampler Location: 22 Sequence No.: 27 Sample ID: K1412945-003DISS Date Collected: 12/4/2014 10:14:05 AM Data Type: Original Analyst: Replicate Data: K1412945-003DISS Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak ug/L Signal Area Height Area Stored Height # ug/L 2.121 0.103 2.112 0.102 2.204 0.107 0.103 0.362 0.105 0.358 0.105 10:14:23 Yes 0.105 1 2.121 Yes 2 2.112 10:14:56 0.369 0.109 10:15:30 Yes 3 2.204 2.146 Mean: 2.146 0.104 0.0504 0.0024 0.0504 SD: 2.350 %RSD: 2.350 2.35 _______ Autosampler Location: 23 Sequence No.: 28 Sample ID: K1412945-004DISS Date Collected: 12/4/2014 10:16:18 AM Data Type: Original Analyst: ______ Replicate Data: K1412945-004DISS Time Bkgnd Bkgnd Peak Repl SampleConc StndConc BlnkCorr Peak Peak
 ug/L
 Signal
 Area

 2.623
 0.127
 0.445

 2.639
 0.128
 0.439
 Area Height Height Stored # ug/L 0.129 10:16:36 Yes 0.445 1 2.623 0.439 0.130 Yes 10:17:10 2.639 2 2.519 0.122 10:17:43 0.411 0.124 3 2.519 2.594 0.126 Mean: 2.594 SD: 0.0652 0.0652 0.0032 2.512 2.51 %RSD: 2.512 Autosampler Location: 24 Sequence No.: 29 Sample ID: K1412945-005DISS Date Collected: 12/4/2014 10:18:33 AM Data Type: Original Analyst: Replicate Data: K1412945-005DISS

SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time

Method: As Hydride Page 9 Date: 12/4/2014 1:11:23 PM

#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.241	1.241	0.060	0.206	0.062			10:18:51	Yes
2	1.101	1.101	0.053	0.124	0.056			10:19:25	Yes
3	1.143	1.143	0.055	0.189	0.058			10:19:58	Yes
Mean:	1.162	1.162	0.056						
SD:	0.0717	0.0717	0.0035						
%RSD:	6.174	6.174	6.17						

Sequence No.: 30 Autosampler Location: 25

Sample ID: K1412945-006DISS Date Collected: 12/4/2014 10:20:48 AM

Analyst: Data Type: Original

Replic	ate Data: Kl	412945-006	DISS						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.844	2.844	0.138	0.480	0.140			10:21:06	Yes
2	2.900	2.900	0.141	0.478	0.143			10:21:40	Yes
3	2.826	2.826	0.137	0.432	0.139			10:22:14	Yes
Mean:	2.857	2.857	0.138						
SD:	0.0387	0.0387	0.0019						
& DGD.	1 355	1 355	1 36						

Sequence No.: 31 Autosampler Location: 26

Sample ID: K1412945-007DISS Date Collected: 12/4/2014 10:23:04 AM

Analyst: Data Type: Original

Replicate Data: K1412945-007DISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	0.1212	0.1212	0.006	0.018	0.008			10:23:22	Yes		
2	0.0763	0.0763	0.004	0.003	0.006			10:23:56	Yes		
3	0.0611	0.0611	0.003	0.011	0.005			10:24:29	Yes		
Mean:	0.0862	0.0862	0.004								
SD:	0.0312	0.0312	0.0015								
%RSD:	36.20	36.20	36.20								

Sequence No.: 32 Autosampler Location: 27

Sample ID: K1412945-008DISS Date Collected: 12/4/2014 10:25:20 AM

Analyst: Data Type: Original

Replicate Data: K1412945-008DISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak .		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	3.348	3.348	0.162	0.575	0.164			10:25:38	Yes		
2	3.433	3.433	0.166	0.574	0.169			10:26:12	Yes		
3	3.414	3.414	0.165	0.588	0.168			10:26:45	Yes		
Mean:	3.398	3.398	0.165								
SD:	0.0446	0.0446	0.0022								
%RSD:	1.313	1.313	1.31								

Sequence No.: 33 Autosampler Location: 28

Sample ID: K1412993-001 Date Collected: 12/4/2014 10:27:36 AM

Analyst: Data Type: Original

Replic	ate Data: Kl	.412993-001	i						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.392	2.392	0.116	0.417	0.118			10:27:54	Yes
2	2.392	2.392	0.116	0.405	0.118			10:28:28	Yes
3	2.426	2.426	0.118	0.413	0.120			10:29:01	Yes
Mean:	2.403	2.403	0.116						

0.0198 0.0010 0.0198 %RSD: 0.8231 0.8231 0.82

Autosampler Location: 5 Sequence No.: 34

Date Collected: 12/4/2014 10:29:52 AM Sample ID: CCV

Analyst: Data Type: Original

Replicate Data: CCV

%RSD: 1.294

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.093	7.093	0.344	1.196	0.346			10:30:11	Yes
2	7.047	7.047	0.342	1.195	0.344			10:30:44	Yes
3	6.918	6.918	0.335	1.199	0.337			10:31:18	Yes
Mean:	7.019	7.019	0.340						
SD:	0.0909	0.0909	0.0044						

1.294 QC value within limits for As 193.70 Recovery = 93.59%

All analyte(s) passed QC.

Autosampler Location: 1 Sequence No.: 35

Date Collected: 12/4/2014 10:32:08 AM Sample ID: CCB

Data Type: Original Analyst:

Replicate Data: CCB

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.0913	0.0913	0.004	0.023	0.007			10:32:24	Yes
2	0.0315	0.0315	0.002	-0.012	0.004			10:32:58	Yes
3	0.0498	0.0498	0.002	0.012	0.005			10:33:32	Yes
Mean:	0.0575	0.0575	0.003						
SD:	0.0307	0.0307	0.0015						
%RSD:	53.32	53.32	53.32						
		- 1 1	- 400 50	-		7 7 .	3		

QC value within limits for As 193.70 Recovery = Not calculated

All analyte(s) passed QC.

Autosampler Location: 29 Sequence No.: 36

Date Collected: 12/4/2014 10:34:20 AM Sample ID: K1412993-001D

Data Type: Original Analyst:

Replicate Data: K1412993-001D

repric	Pilodoc Daca. Illando o dab											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored			
1	2.315	2.315	0.112	0.400	0.114			10:34:39	Yes			
2	2.311	2.311	0.112	0.369	0.114			10:35:13	Yes			
3	2.358	2.358	0.114	0.403	0.116			10:35:47	Yes			
Mean:	2.328	2.328	0.113									
SD:	0.0260	0.0260	0.0013									
%RSD:	1.116	1.116	1.12									

Autosampler Location: 30 Sequence No.: 37

Date Collected: 12/4/2014 10:36:37 AM Sample ID: K1412993-001S

Analyst: Data Type: Original

Replicate Data: K1412993-001S

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.312	2.312	0.112	0.404	0.114			10:36:57	Yes
2	2.332	2.332	0.113	0.404	0.115			10:37:30	Yes
3	2.356	2.356	0.114	0.398	0.116			10:38:04	Yes
Mean:	2.333	2.333	0.113						
SD:	0.0222	0.0222	0.0011						

Date: 12/4/2014 1:11:23 PM Method: As Hydride Page 11

%RSD: 0.9520 0.9520 0.95

Autosampler Location: 31 Sequence No.: 38

Date Collected: 12/4/2014 10:38:55 AM Sample ID: K1412993-002

Data Type: Original Analyst:

Replicate Data: K1412993-002

%RSD: 1.679

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.380	2.380	0.115	0.417	0.118			10:39:14	Yes
2	2.434	2.434	0.118	0.408	0.120			10:39:48	Yes
3	2.364	2.364	0.115	0.395	0.117			10:40:22	Yes
Mean:	2.393	2.393	0.116						
SD:	0.0368	0.0368	0.0018						
%RSD:	1.536	1.536	1.54						

Autosampler Location: 32 Sequence No.: 39

Sample ID: K1412993-001DISS Date Collected: 12/4/2014 10:41:14 AM

Analyst: Data Type: Original

Replicate Data: K1412993-001DISS

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.330	2.330	0.113	0.413	0.115			10:41:29	Yes
2	2.354	2.354	0.114	0.403	0.116			10:42:03	Yes
3	2.302	2.302	0.112	0.373	0.114			10:42:37	Yes
Mean:	2.329	2.329	0.113						
SD:	0.0258	0.0258	0.0013						
%RSD:	1.108	1.108	1.11						

Sequence No.: 40 Autosampler Location: 33

Sample ID: K1412993-001DDISS Date Collected: 12/4/2014 10:43:24 AM

Data Type: Original Analyst:

Replicate Data: K1412993-001DDISS

1.679

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.091	2.091	0.101	0.349	0.104			10:43:40	Yes
2	2.134	2.134	0.103	0.365	0.106			10:44:14	Yes
3	2.161	2.161	0.105	0.377	0.107			10:44:47	Yes
Mean:	2.129	2.129	0.103						
SD:	0.0357	0.0357	0.0017						

Autosampler Location: 34 Sequence No.: 41

Date Collected: 12/4/2014 10:45:35 AM Sample ID: K1412993-001SDISS

Data Type: Original Analyst:

1.68

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Replic	Replicate Data: K1412993-001SDISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	2.216	2.216	0.107	0.389	0.110			10:45:51	Yes			
2	2.248	2.248	0.109	0.386	0.111			10:46:25	Yes			
3	2.214	2.214	0.107	0.386	0.109			10:46:59	Yes			
Mean:	2.226	2.226	0.108									
SD:	0.0195	0.0195	0.0009									
%RSD:	0.8746	0.8746	0.87									

Autosampler Location: 35 Sequence No.: 42

Date Collected: 12/4/2014 10:47:47 AM Sample ID: K1412993-002DISS

Date: 12/4/2014 1:11:23 PM Method: As Hydride Page 12 Data Type: Original Analyst: Replicate Data: K1412993-002DISS SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak Repl ug/L Signal Area Height Area Height
4.020 0.195 0.936 0.197
2.211 0.107 0.363 0.109
2.215 0.107 0.372 0.110
2.815 0.136
1.043 0.0506 ug/L Stored # Yes 10:48:03 1 4.020 10:48:37 Yes 2.211 2 2.215 10:49:11 Yes 3 Mean: 2.815 SD: 1.043 %RSD: 37.06 37.06 37.06 Autosampler Location: 36 Sequence No.: 43 Date Collected: 12/4/2014 10:49:59 AM Sample ID: K1413402-MB Data Type: Original Analyst: Replicate Data: K1413402-MB Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak Stored ug/L Signal Area Height Area Height Yes Yes -0.006 0.003 10:50:16 10:50:50 10:51:23 Yes ______ Autosampler Location: 37 Sequence No.: 44 Sample ID: LCSWK1413402 Date Collected: 12/4/2014 10:52:12 AM Data Type: Original Analyst: ______

Replic	Replicate Data: LCSWK1413402											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	4.841	4.841	0.235	0.847	0.237			10:52:29	Yes			
2	4.895	4.895	0.237	0.848	0.239			10:53:03	Yes			
3	4.924	4.924	0.239	0.853	0.241			10:53:37	Yes			
Mean:	4.886	4.886	0.237									
SD:	0.0420	0.0420	0.0020									
%RSD:	0.8603	0.8603	0.86									

Autosampler Location: 38 Sequence No.: 45

Date Collected: 12/4/2014 10:54:26 AM Sample ID: K1413402-001

Data Type: Original Analyst:

Replicate Data: K1413402-001										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	2.140	2.140	0.104	0.374	0.106			10:54:43	Yes	
2	2.104	2.104	0.102	0.368	0.104			10:55:17	Yes	
3	2.119	2.119	0.103	0.362	0.105			10:55:51	Yes	
Mean:	2.121	2.121	0.103							
SD:	0.0179	0.0179	0.0009							
%RSD:	0.8430	0.8430	0.84							

Autosampler Location: 5 Sequence No.: 46

Date Collected: 12/4/2014 10:56:40 AM Sample ID: CCV

Data Type: Original Analyst:

Replicate Data: CCV

Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak Method: As Hydride Page 13 Date: 12/4/2014 1:11:23 PM

#	ua/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.691	7.691	0.373	1.338	0.375			10:56:58	Yes
2	7.784	7.784	0.377	1.341	0.379			10:57:33	Yes
3	7.521	7.521	0.365	1.351	0.367			10:58:06	Yes
Mean:	7.665	7.665	0.372						
SD:	0.1333	0.1333	0.0065						
%RSD:	1.739	1.739	1.74						
QC	value withi	n limits f	or As 193.70	Recove	ery = 102.	. 20%			
All ar	nalyte(s) pa	assed QC.							

Sequence No.: 47 Autosampler Location: 1

Sample ID: CCB Date Collected: 12/4/2014 10:58:57 AM

Analyst: Data Type: Original

Replic	Replicate Data: CCB											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	0.1328	0.1328	0.006	0.035	0.009			10:59:13	Yes			
2	0.0551	0.0551	0.003	0.006	0.005			10:59:47	Yes			
3	0.0381	0.0381	0.002	-0.005	0.004			11:00:21	Yes			
Mean:	0.0754	0.0754	0.004									
SD:	0.0505	0.0505	0.0024									
%RSD:	66.99	66.99	66.99									
QC	value within	limits fo	or As 193.70	Recove	ry = Not	calculate	d					

All analyte(s) passed QC.

Sequence No.: 48 Autosampler Location: 39

Sample ID: K1413402-002 Date Collected: 12/4/2014 11:01:10 AM

Analyst: Data Type: Original

Replicate Data: K1413402-002 Repl SampleConc StndConc BlnkCorr Peak Peak Time Bkqnd Bkqnd Peak Stored ug/L Signal Area Height Area Height # ug/L 0.505 11:01:27 Yes 0.140 0.142 2.884 1 2.884 0.505 0.142 0.489 0.140 0.501 0.143 2.835 0.137 2.897 0.140 2.872 0.139 Yes 2.835 11:02:01 2 11:02:35 Yes 3 2.897 Mean: 2.872 0.0326 0.0016 0.0326 SD: %RSD: 1.135 1.135 1.13

Sequence No.: 49 Autosampler Location: 40

Sample ID: K1413402-002D Date Collected: 12/4/2014 11:03:25 AM

Analyst: Data Type: Original

Replicate Data: K1413402-002D Peak Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak Height Area ug/L Signal Area Height Stored # ug/L 11:03:42 2.821 2.821 3.164 0.137 0.492 0.139 Yes 1 3.164 0.153 2.448 0.119 1.366 0.156 11:04:16 Yes 3.164 2 0.152 11:04:50 Yes 0.121 2.448 Changing BOC Mean: 2.811 2.811 0.136 0.3582 0.0174 0.3582 12.74 12.74 %RSD: 12.74

Sequence No.: 50 Autosampler Location: 41

Sample ID: K1413402-002S Date Collected: 12/4/2014 11:05:39 AM

Analyst: Data Type: Original

Replicate Data: K1413402-002S

Changing BOC

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	3.514	3.514	0.170	0.593	0.172		_	11:05:57	Yes
2	3.473	3.473	0.168	0.604	0.170			11:06:31	Yes
3	3.464	3.464	0.168	0.600	0.170			11:07:05	Yes
Mean:	3.483	3.483	0.169						
SD:	0.0270	0.0270	0.0013						
%RSD:	0.7737	0.7737	0.77						

Sequence No.: 51

Autosampler Location: 42 Date Collected: 12/4/2014 11:07:55 AM Sample ID: K1413402-003

Analyst:

Replicate Data: K1413402-003										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	2.109	2.109	0.102	0.346	0.104			11:08:13	Yes	
2	2.127	2.127	0.103	0.365	0.105			11:08:46	Yes	
3	2.122	2.122	0.103	0.366	0.105			11:09:20	Yes	
Mean:	2.119	2.119	0.103							
SD:	0.0092	0.0092	0.0004							
%RSD:	0.4347	0.4347	0.43							

Sequence No.: 52

Autosampler Location: 43 Sample ID: K1413402-004

Analyst:

Date Collected: 12/4/2014 11:10:10 AM

Data Type: Original

Autosampler Location: 44

Autosampler Location: 45

Data Type: Original

Data Type: Original

Data Type: Original

Replic	Replicate Data: K1413402-004										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	0.1334	0.1334	0.006	0.028	0.009			11:10:29	Yes		
2	0.1109	0.1109	0.005	0.019	0.008			11:11:02	Yes		
3	0.1011	0.1011	0.005	0.014	0.007			11:11:36	Yes		
Mean:	0.1151	0.1151	0.006								
SD:	0.0166	0.0166	0.0008								
%RSD:	14.38	14.38	14.38								

Sequence No.: 53

Date Collected: 12/4/2014 11:12:26 AM Sample ID: K1413402-004A

Analyst:

Replicate Data: K1413402-004A									
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	4.856	4.856	0.235	0.841	0.238			11:12:44	Yes
2	4.808	4.808	0.233	0.841	0.235			11:13:18	Yes
3	4.841	4.841	0.235	0.854	0.237			11:13:53	Yes
Mean:	4.835	4.835	0.234						
SD:	0.0245	0.0245	0.0012						
%RSD:	0.5072	0.5072	0.51						

Sequence No.: 54

Date Collected: 12/4/2014 11:14:43 AM Sample ID: K1413402-005

Analyst:

Replic	ate Data: Kl	413402-005							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.694	1.694	0.082	0.308	0.084			11:15:02	Yes
2	1.668	1.668	0.081	0.295	0.083			11:15:36	Yes
3	1.641	1.641	0.080	0.294	0.082			11:16:10	Yes

Method: As Hydride

0.081 Mean: 1.668 1.668 0.0266 0.0013 SD: 0.0266 %RSD: 1.596 1.596 1.60

Sequence No.: 55

Sample ID: K1413402-006 Date Collected: 12/4/2014 11:17:00 AM

Analyst:

Data Type: Original

Autosampler Location: 46

Replic	ate	Data:	K1	41340	02-006
Renl	San	moleCo	nc	Stno	Conc

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.882	1.882	0.091	0.331	0.093			11:17:19	Yes
2	1.926	1.926	0.093	0.339	0.096			11:17:53	Yes
3	1.861	1.861	0.090	0.332	0.092			11:18:27	Yes
Mean:	1.889	1.889	0.092						
SD:	0.0332	0.0332	0.0016						
%RSD:	1.756	1.756	1.76						

Sequence No.: 56

Autosampler Location: 47 Sample ID: K1413402-007

Analyst:

Date Collected: 12/4/2014 11:19:18 AM

Data Type: Original

Replicate Data: K1413402-007

Repl	SampleConc	${\tt StndConc}$	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.982	1.982	0.096	0.337	0.098			11:19:37	Yes
2	1.980	1.980	0.096	0.350	0.098			11:20:11	Yes
3	1.926	1.926	0.093	0.347	0.096			11:20:44	Yes
Mean:	1.962	1.962	0.095						
SD:	0.0318	0.0318	0.0015						
%RSD:	1.621	1.621	1.62						

Sequence No.: 57

Sample ID: K1413402-008

Analyst:

Autosampler Location: 48

Date Collected: 12/4/2014 11:21:36 AM

Data Type: Original

Replicate Data: K1413402-008

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.728	2.728	0.132	0.471	0.134			11:21:51	Yes
2	2.690	2.690	0.130	0.467	0.133			11:22:25	Yes
3	2.717	2.717	0.132	0.481	0.134			11:22:59	Yes
Mean:	2.711	2.711	0.131						
SD:	0.0197	0.0197	0.0010						

Sequence No.: 58

Autosampler Location: 5

Sample ID: CCV Analyst:

%RSD: 0.7278

Date Collected: 12/4/2014 11:23:46 AM Data Type: Original

Replic	ate	Data:	CCV
Repl	Sar	moleCo	ac

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	7.536	7.536	0.365	1.351	0.367			11:24:04	Yes
2	8.075	8.075	0.391	1.615	0.394			11:24:38	Yes
3	7.569	7.569	0.367	1.268	0.369			11:25:12	Yes

Mean: 7.727 7.727 0.374
 0.3022
 0.3022
 0.0146

 3.911
 3.911
 3.91
 SD: %RSD: 3.911

QC value within limits for As 193.70 Recovery = 103.02%

0.7278 0.73

All analyte(s) passed QC.

Sequence No.: 59

Autosampler Location: 1

Sample ID: CCB Date Collected: 12/4/2014 11:26:02 AM

Analyst: Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1229	0.1229	0.006	0.025	0.008			11:26:18	Yes
2	0.0821	0.0821	0.004	-0.007	0.006			11:26:52	Yes
3	0.0373	0.0373	0.002	-0.004	0.004			11:27:26	Yes
Mean:	0.0808	0.0808	0.004						
SD:	0.0428	0.0428	0.0021						

%RSD: 52.98 52.98 52.98 QC value within limits for As 193.70 Recovery = Not calculated

Sequence No.: 60 Autosampler Location: 49

Sample ID: K1413402-009 Date Collected: 12/4/2014 11:28:14 AM

Analyst: Data Type: Original

Replicate Data: K1413402-009

%RSD: 12.53

12.53

All analyte(s) passed QC.

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1419	0.1419	0.007	0.084	0.009			11:28:30	Yes
2	0.1363	0.1363	0.007	0.028	0.009			11:29:04	Yes
3	0.1113	0.1113	0.005	0.026	0.008			11:29:38	Yes
Mean:	0.1298	0.1298	0.006						
SD:	0.0163	0.0163	0.0008						

Sequence No.: 61 Autosampler Location: 50

Sample ID: K1413402-010 Date Collected: 12/4/2014 11:30:26 AM

Analyst: Data Type: Original

12.53

Replicate Data: K1413402-010

vebric	epiicate data. Ni415402 010										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	2.036	2.036	0.099	0.360	0.101			11:30:42	Yes		
2	2.026	2.026	0.098	0.356	0.100			11:31:15	Yes		
3	1.978	1.978	0.096	0.357	0.098			11:31:49	Yes		
Mean:	2.013	2.013	0.098								
SD:	0.0312	0.0312	0.0015								
%RSD:	1.549	1.549	1.55								

Sequence No.: 62 Autosampler Location: 51

Sample ID: K1413402-001DISS Date Collected: 12/4/2014 11:32:37 AM

Analyst: Data Type: Original

1.24

Replicate Data: K1413402-001DISS

%RSD: 1.237

1.237

recent	acc bacar								_
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.429	2.429	0.118	0.438	0.120			11:32:54	Yes
2	2.462	2.462	0.119	0.433	0.121			11:33:27	Yes
3	2.402	2.402	0.116	0.436	0.119			11:34:01	Yes
Mean:	2.431	2.431	0.118						
SD:	0.0301	0.0301	0.0015						

Sequence No.: 63 Autosampler Location: 52

Date Collected: 12/4/2014 11:34:50 AM Sample ID: K1413402-002DISS

Analyst:

Data Type: Original

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.622	2.622	0.127	0.476	0.129			11:35:06	Yes
2	2.551	2.551	0.124	0.465	0.126			11:35:40	Yes
3	2.679	2.679	0.130	0.469	0.132			11:36:14	Yes
Mean:	2.617	2.617	0.127						
SD:	0.0642	0.0642	0.0031						
&DGD.	2 454	2 454	2 45						

Sequence No.: 64

Autosampler Location: 53 Sample ID: K1413402-002DDISS

Analyst:

Date Collected: 12/4/2014 11:37:03 AM

Data Type: Original

Replicate Data: K1413402-002DDISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	2.803	2.803	0.136	0.454	0.138			11:37:19	Yes		
2	2.714	2.714	0.132	0.489	0.134			11:37:53	Yes		
3	2.741	2.741	0.133	0.481	0.135			11:38:26	Yes		
Mean:	2.752	2.752	0.133								
SD:	0.0455	0.0455	0.0022								
%RSD:	1.653	1.653	1.65								

Sequence No.: 65

Sample ID: K1413402-002SDISS

Analyst:

Autosampler Location: 54

Date Collected: 12/4/2014 11:39:15 AM

Data Type: Original

Replicate Data: K1413402-002SDISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	3.499	3.499	0.170	0.606	0.172			11:39:32	Yes		
2	3.391	3.391	0.164	0.599	0.167			11:40:06	Yes		
3	3.431	3.431	0.166	0.605	0.168			11:40:40	Yes		
Mean:	3.440	3.440	0.167								
SD:	0.0548	0.0548	0.0027								
%RSD:	1.592	1.592	1.59								

Sequence No.: 66

Sample ID: K1413402-003DISS

Analyst:

Autosampler Location: 55

Date Collected: 12/4/2014 11:41:29 AM

Data Type: Original

Replicate Data: K1413402-003DISS										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	2.458	2.458	0.119	0.435	0.121			11:41:46	Yes	
2	2.603	2.603	0.126	0.447	0.128			11:42:20	Yes	
3	2.490	2.490	0.121	0.450	0.123			11:42:54	Yes	
Mean:	2.517	2.517	0.122							
SD:	0.0763	0.0763	0.0037							

Sequence No.: 67

%RSD: 3.033

Sample ID: K1413402-004DISS

3.033

3.03

Analyst:

Autosampler Location: 56 Date Collected: 12/4/2014 11:43:43 AM

Data Type: Original

Replicate Data: K1413402-004DISS

Repl # 1 2	SampleConc ug/L 0.0977 0.0908	StndConc ug/L 0.0977 0.0908	BlnkCorr Signal 0.005 0.004	Peak Area 0.023 0.019	Peak Height 0.007 0.007	Bkgnd Area	Bkgnd Height	Time 11:44:01 11:44:34	Peak Stored Yes Yes
3	0.0932	0.0932	0.005	0.021	0.007			11:45:08	Yes
Mean: SD: %RSD:	0.0939 0.0035 3.753	0.0939 0.0035 3.753	0.005 0.0002 3.75						

Sequence No.: 68

Autosampler Location: 57 Date Collected: 12/4/2014 11:45:57 AM Sample ID: K1413402-005DISS

Analyst:

Data Type: Original

Replicate Data: K1413402-005DISS												
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	1.323	1.323	0.064	0.239	0.066			11:46:15	Yes			
2	1.396	1.396	0.068	0.243	0.070			11:46:49	Yes			
3	1.365	1.365	0.066	0.237	0.068			11:47:22	Yes			
Mean:	1.361	1.361	0.066									
SD:	0.0362	0.0362	0.0018									

Sequence No.: 69

%RSD: 2.663 2.663 2.66

Autosampler Location: 58

Date Collected: 12/4/2014 11:48:12 AM Sample ID: K1413402-006DISS Data Type: Original

Analyst:

Replicate Data: K1413402-006DISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	2.008	2.008	0.097	0.368	0.100			11:48:30	Yes		
2	1.983	1.983	0.096	0.368	0.098			11:49:04	Yes		
3	2.068	2.068	0.100	0.369	0.102			11:49:37	Yes		
Mean:	2.020	2.020	0.098								
SD:	0.0438	0.0438	0.0021								
%RSD:	2.168	2.168	2.17								

Autosampler Location: 5

Data Type: Original

Sequence No.: 70

Date Collected: 12/4/2014 11:50:28 AM Sample ID: CCV

Analyst:

Replic	Replicate Data: CCV											
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored			
1	7.678	7.678	0.372	1.368	0.374			11:50:46	Yes			
2	7.736	7.736	0.375	1.447	0.377			11:51:19	Yes			
Cha	nging BOC											
3	7.616	7.616	0.369	1.349	0.371			11:51:53	Yes			
Mean:	7.677	7.677	0.372									
SD:	0.0603	0.0603	0.0029									
%RSD:	0.7857	0.7857	0.79									
Cha	nging BOC											

QC value within limits for As 193.70 Recovery = 102.36%

All analyte(s) passed QC.

Autosampler Location: 1 Sequence No.: 71

Date Collected: 12/4/2014 11:52:44 AM Sample ID: CCB

Data Type: Original Analyst:

Replicate Data: CCB

Bkgnd Bkgnd Time Peak Repl SampleConc StndConc BlnkCorr Peak Peak

Method: As Hydride Page 19 Date: 12/4/2014 1:11:23 PM

# 1 2	ug/L 0.1270 0.0590	ug/L 0.1270 0.0590	Signal 0.006 0.003	Area 0.010 -0.019	Height 0.008 0.005	Area	Height	11:53:00 11:53:34	Stored Yes Yes
3	0.0501	0.0501	0.002	0.010	0.005			11:54:07	Yes
Mean:	0.0787	0.0787	0.004						
SD:	0.0421	0.0421	0.0020						
%RSD:	53.49	53.49	53.49						
QC	value within	limits	for As 193.70	Recove	ry = Not	calculat	ed		
All an	alyte(s) pas	sed QC.							

Sequence No.: 72 Autosampler Location: 59

Sample ID: K1413402-007DISS Date Collected: 12/4/2014 11:54:56 AM

Analyst: Data Type: Original

Replic	Replicate Data: K1413402-007DISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	1.533	1.533	0.074	0.270	0.076			11:55:14	Yes			
2	1.574	1.574	0.076	0.255	0.078			11:55:48	Yes			
3	1.547	1.547	0.075	0.281	0.077			11:56:22	Yes			
Mean:	1.552	1.552	0.075									
SD:	0.0209	0.0209	0.0010									
PDGD.	1 345	1 345	1 35									

Sequence No.: 73 Autosampler Location: 60

Sample ID: K1413402-008DISS Date Collected: 12/4/2014 11:57:13 AM

Analyst: Data Type: Original

Replicate Data: K1413402-008DISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	2.234	2.234	0.108	0.415	0.110			11:57:31	Yes		
2	2.321	2.321	0.112	0.408	0.115			11:58:05	Yes		
3	2.458	2.458	0.119	0.419	0.121			11:58:39	Yes		
Mean:	2.338	2.338	0.113								
SD:	0.1130	0.1130	0.0055								
%RSD:	4.834	4.834	4.83								

Sequence No.: 74 Autosampler Location: 61

Sample ID: K1413402-009DISS Date Collected: 12/4/2014 11:59:29 AM

Analyst: Data Type: Original

Replic	Replicate Data: K1413402-009DISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	0.1384	0.1384	0.007	0.027	0.009			11:59:48	Yes			
2	0.1190	0.1190	0.006	0.021	0.008			12:00:21	Yes			
3	-0.0040	-0.0040	-0.000	-0.072	0.002			12:00:55	Yes			
Mean:	0.0844	0.0844	0.004									
SD:	0.0772	0.0772	0.0037									
%RSD:	91.45	91.45	91.45									

Sequence No.: 75 Autosampler Location: 62

Sample ID: K1413402-010DISS Date Collected: 12/4/2014 12:01:46 PM

Analyst: Data Type: Original

Replic	ate Data: Kl	413402-010	DISS						_
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.531	1.531	0.074	0.275	0.076			12:02:05	Yes
2	1.544	1.544	0.075	0.241	0.077			12:02:39	Yes

Date: 12/4/2014 1:11:23 PM Method: As Hydride Page 20

12:03:13

Time

12:04:19 Yes

12:04:53 12:05:26

Yes

Yes

ρ

1.566 0.076 1.547 1.547 0.075 0.0180 0.0180 0.0009 1.166 1.166 1.566 0.076 1.566 Mean: 1.547 SD: %RSD: 1.166

Autosampler Location: 63

Sequence No.: 76

Date Collected: 12/4/2014 12:04:04 PM Sample ID: K1413380-MB

0.237 0.078

Data Type: Original Analyst:

Replicate Data: K1413380-MB

 Repl
 SampleConc
 StndConc
 BlnkCorr
 Peak
 Peak
 Bkgnd
 Bkgnd

 #
 ug/L
 ug/L
 Signal
 Area
 Height
 Area
 Height

 1
 0.0243
 0.0243
 0.001
 0.013
 0.003

 2
 0.0094
 0.0094
 0.000
 -0.020
 0.003
 Mean: 0.0110 0.0110 0.001
SD: 0.0126 0.0126 0.0006
%RSD: 114.3 114.3 114.3

Sequence No.: 77

Autosampler Location: 64

Date Collected: 12/4/2014 12:06:14 PM Sample ID: LCSWK1413380

Data Type: Original Analyst:

Replicate Data: LCSWK1413380

Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time ug/L ug/L Signal Area Height Area Height
4.927 4.927 0.239 0.858 0.241
4.799 4.799 0.233 0.868 0.235
5.039 5.039 0.244 0.875 0.246
4.922 4.922 0.239 Stored # Yes 12:06:29 4.927 1 12:07:04 12:07:37 2 4.799 Yes 3

 4.922
 0.239

 0.1204
 0.005

 2.446
 2.45

 Mean: 4.922 0.239 0.0058 0.1204 SD: %RSD: 2.446

Autosampler Location: 65 Sequence No.: 78

Date Collected: 12/4/2014 12:08:25 PM Sample ID: K1413380-001

Data Type: Original Analyst:

Replicate Data: K1413380-001

Peak Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time
 ug/L
 Signal
 Area
 Height
 Area
 Height

 0.2180
 0.011
 0.040
 0.013

 0.2010
 0.010
 0.037
 0.012

 0.1586
 0.008
 0.031
 0.010
 Stored # ug/L 12:08:41 Yes 1 0.2180 12:09:15 0.2010 0.010 0.1586 0.008 0.1925 0.009 Yes 0.2010 2 12:09:48 Yes 3 0.1586 0.1925 Mean: 0.1925 0.0306 0.0015 0.0306 SD: %RSD: 15.89 15.89 15.89

Autosampler Location: 66 Sequence No.: 79

Date Collected: 12/4/2014 12:10:37 PM Sample ID: K1413380-002

Data Type: Original Analyst:

0.6812 0.68

Replicate Data: K1413380-002

%RSD: 0.6812

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	1.776	1.776	0.086	0.318	0.088		2	12:10:53	Yes
2	1.752	1.752	0.085	0.310	0.087			12:11:26	Yes
3	1.762	1.762	0.085	0.325	0.088			12:12:00	Yes
Mean:	1.764	1.764	0.085						
SD:	0.0120	0.0120	0.0006						

Method: As Hydride

Sequence No.: 80

Sample ID: K1413380-003

Analyst:

Autosampler Location: 67

Date Collected: 12/4/2014 12:12:48 PM

Data Type: Original

Replic	ate Data: Kl	413380-003							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.4854	0.4854	0.024	0.093	0.026			12:13:04	Yes
2	0.6730	0.6730	0.033	0.215	0.035			12:13:38	Yes
Cha	nging BOC								
3	0.4661	0.4661	0.023	0.071	0.025			12:14:12	Yes
Mean:	0.5415	0.5415	0.026						
SD:	0.1143	0.1143	0.0055						
%RSD:	21.11	21.11	21.11						
Cha	naina BOC								

Sequence No.: 81

Sample ID: K1413380-003A

1.700

Analyst:

Date Collected: 12/4/2014 12:15:00 PM

Data Type: Original

Autosampler Location: 68

Replic	ate Data: Kl	413380-003	A						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	5.166	5.166	0.250	0.913	0.253			12:15:17	Yes
2	5.292	5.292	0.256	0.906	0.259			12:15:51	Yes
3	5.122	5.122	0.248	0.855	0.250			12:16:27	Yes
Mean:	5.193	5.193	0.252						
SD:	0.0883	0.0883	0.0043						

Sequence No.: 82 Sample ID: CCV

%RSD: 1.700

Sample ID: CCV Analyst: Autosampler Location: 5

Date Collected: 12/4/2014 12:17:15 PM

Data Type: Original

Replic	ate Data: CC	.V							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored
1	7.646	7.646	0.371	1.372	0.373			12:17:33	Yes
2	7.706	7.706	0.373	1.371	0.376			12:18:07	Yes
3	7.597	7.597	0.368	1.365	0.370			12:18:41	Yes
Mean:	7.650	7.650	0.371						
SD:	0.0542	0.0542	0.0026						
%RSD:	0.7086	0.7086	0.71						

QC value within limits for As 193.70 Recovery = 101.99%

1.70

All analyte(s) passed QC.

Sequence No.: 83 Autosampler Location: 1

Sample ID: CCB Date Collected: 12/4/2014 12:19:32 PM

Analyst: Data Type: Original

Replic	ate Data: CC	B							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1469	0.1469	0.007	0.023	0.009			12:19:48	Yes
2	0.0955	0.0955	0.005	0.019	0.007			12:20:22	Yes
3	0.0436	0.0436	0.002	0.015	0.004			12:20:56	Yes
Mean:	0.0954	0.0954	0.005						
SD:	0.0517	0.0517	0.0025						
%RSD:	54.17	54.17	54.17						

QC value within limits for As 193.70 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 84 Autosampler Location: 69

Sample ID: K1413380-003D Date Collected: 12/4/2014 12:21:44 PM

Analyst: Data Type: Original

Replicate Data: K1413380-003D

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.4783	0.4783	0.023	0.094	0.025			12:22:01	Yes
2	0.4613	0.4613	0.022	0.075	0.025			12:22:35	Yes
3	0.4781	0.4781	0.023	0.094	0.025			12:23:09	Yes
Mean:	0.4725	0.4725	0.023						
SD:	0.0097	0.0097	0.0005						
%RSD:	2.062	2.062	2.06						

Sequence No.: 85 Autosampler Location: 70

Sample ID: K1413380-003S Date Collected: 12/4/2014 12:23:57 PM

Analyst: Data Type: Original

Replicate Data: K1413380-003S

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	8.462	8.462	0.410	1.502	0.412			12:24:14	Yes
2	8.545	8.545	0.414	1.841	0.416			12:24:48	Yes
3	8.592	8.592	0.416	1.511	0.419			12:25:22	Yes
Mean:	8.533	8.533	0.414						
SD:	0.0661	0.0661	0.0032						

Sequence No.: 86 Autosampler Location: 71

Sample ID: K1413380-004 Date Collected: 12/4/2014 12:26:11 PM

Analyst: Data Type: Original

0.7744 0.77

Replicate Data: K1413380-004

%RSD: 0.7744

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.249	2.249	0.109	0.392	0.111			12:26:28	Yes
2	2.138	2.138	0.104	0.383	0.106			12:27:02	Yes
3	2.159	2.159	0.105	0.393	0.107			12:27:35	Yes
Mean:	2.182	2.182	0.106						
SD:	0.0588	0.0588	0.0029						
%RSD:	2.697	2.697	2.70						

Sequence No.: 87 Autosampler Location: 72

Sample ID: K1413380-005 Date Collected: 12/4/2014 12:28:25 PM

Analyst: Data Type: Original

Replicate Data: K1413380-005

2.030

%RSD: 2.030

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored
1	2.200	2.200	0.107	0.383	0.109			12:28:42	Yes
2	2.113	2.113	0.102	0.381	0.105			12:29:16	Yes
3	2.148	2.148	0.104	0.389	0.106			12:29:50	Yes
Mean:	2.154	2.154	0.104						
SD:	0.0437	0.0437	0.0021						

Sequence No.: 88 Autosampler Location: 73

2.03

Sample ID: K1413380-006 Date Collected: 12/4/2014 12:30:39 PM

Analyst: Data Type: Original

Repl	ate Data: Kl SampleConc		BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1112	0.1112	0.005	0.052	0.008		-	12:30:57	Yes
2	0.0110	0.0110	0.001	-0.002	0.003			12:31:30	Yes
3	0.0187	0.0187	0.001	0.002	0.003			12:32:04	Yes
Mean:		0.0470	0.002						
D:	0.0557	0.0557	0.0027						
RSD:	118.7	118.7	118.70						
_	ace No.: 89 ace ID: K141338	0-007			Date (ampler Lo Collected Type: Ori	: 12/4/20	4 14 12:32:54	. PM
	ate Data: Kl	413380-007	7					m '	T 1
Repl	SampleConc			Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height	10.00.10	Stored
1	1.957	1.957	0.095	0.357	0.097			12:33:12	Yes
2	2.003	2.003	0.097	0.358	0.099			12:33:46	Yes
•3	1.971	1.971	0.096	0.357	0.098			12:34:19	Yes
Mean:		1.977	0.096						
SD:	0.0236	0.0236	0.0011						
RSD:	1.193	1.193	1.19						
	=======================================								a along taken balan terser among terser imper in to blank taken terser terser imper imper in
-	nce No.: 90 : ID: K141338	0-001DISS				ampler Lo Collected		5 14 12:35:09	PM
nalys						Type: Ori			
y-							_		
 plic	ate Data: Kl								
epl	SampleConc		BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1440	0.1440	0.007	0.038	0.009			12:35:28	Yes
2	0.1236	0.1236	0.006	0.023	0.008			12:36:01	Yes
3	0.1330	0.1330	0.006	0.035	0.009			12:36:35	Yes
ean:	0.1335	0.1335	0.006						
D:	0.0102	0.0102	0.0005						
RSD:	7.650	7.650	7.65					,	ş.
			:=========	======================================	Autos	ampler Lo	cation: 7	6 14 12:37:25	======================================
equer	nce No.: 91 E ID: K141338	0-002DISS			Duc-				
Sequer	D: K141338	0-002DISS				Type: Ori			
equer ample nalys	e ID: K141338 st:	. Mai and and and took too too 444 444			Data !	Type: Ori			
equer ample nalys eplic	e ID: K141338 st: cate Data: K1	.413380-002	2DISS		Data '	Type: Ori		. And the test test test test test test test	Peak
equer ample nalys eplic epl	E ID: K141338 st: cate Data: K1 SampleConc	 413380-002 StndConc	DISS BlnkCorr	Peak	Data '	Type: Ori Bkgnd	ginal Bkgnd	Time	
equer ample nalys eplic epl	e ID: K141338 st: cate Data: K1 SampleConc ug/L 1 616	413380-002 StndConc ug/L 1 616	PDISS BlnkCorr Signal	Peak Area	Data '	Type: Ori	ginal Bkgnd	Time	Peak
equer ample nalys eplic epl #	e ID: K141338 st: cate Data: K1 SampleConc ug/L 1 616	413380-002 StndConc ug/L 1 616	PDISS BlnkCorr Signal	Peak Area	Peak Height	Type: Ori Bkgnd	ginal Bkgnd	Time 12:37:44	Peak Stored Yes
equer ample nalys eplic epl # 1	e ID: K141338 st: cate Data: K1 SampleConc ug/L 1.616 1.614	413380-002 StndConc ug/L 1.616 1.614	PDISS BlnkCorr Signal 0.078 0.078	Peak Area 0.292 0.293	Peak Height 0.080 0.080	Type: Ori Bkgnd	ginal Bkgnd	Time 12:37:44 12:38:18	Peak Store Yes Yes
equer ample nalys eplic epl # 1 2 3	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595	413380-002 StndConc ug/L 1.616 1.614 1.595	PDISS BlnkCorr Signal 0.078 0.078 0.077	Peak Area	Peak Height	Type: Ori Bkgnd	ginal Bkgnd	Time 12:37:44	Peak Stored Yes
equer ample nalys eplice epl 1 2 3 ean:	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608	413380-002 StndConc ug/L 1.616 1.614 1.595 1.608	PDISS BlnkCorr Signal 0.078 0.078 0.077	Peak Area 0.292 0.293	Peak Height 0.080 0.080	Type: Ori Bkgnd	ginal Bkgnd	Time 12:37:44 12:38:18	Peak Store Yes Yes
equer andys eplice eplice ean:	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112	413380-002 StndConc ug/L 1.616 1.614 1.595 1.608 0.0112	EDISS BlnkCorr Signal 0.078 0.078 0.077 0.078 0.0005	Peak Area 0.292 0.293	Peak Height 0.080 0.080	Type: Ori Bkgnd	ginal Bkgnd	Time 12:37:44 12:38:18	Peak Store Yes Yes
equer ample nalys eplice eplice sean:	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	413380-002 StndConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	PDISS BlnkCorr Signal 0.078 0.078 0.077 0.078 0.077	Peak Area 0.292 0.293 0.289	Peak Height 0.080 0.080	Type: Ori Bkgnd Area	ginal Bkgnd Height	Time 12:37:44 12:38:18 12:38:51	Peak Stored Yes Yes Yes
Sequer sample analys ceplic sep	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	413380-002 StndConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	PDISS BlnkCorr Signal 0.078 0.078 0.077 0.078 0.077	Peak Area 0.292 0.293 0.289	Peak Height 0.080 0.080	Type: Ori Bkgnd Area	ginal Bkgnd Height	Time 12:37:44 12:38:18 12:38:51	Peak Store Yes Yes Yes
Sequer Sample Analys Replication # 1 2 3 Mean: SD: SRSD: SRSD: Sequer Sample Sa	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985 Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	413380-002 StndConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	PDISS BlnkCorr Signal 0.078 0.078 0.077 0.078 0.077	Peak Area 0.292 0.293 0.289	Peak Height 0.080 0.080 0.080	Type: Ori Bkgnd Area ampler Lo Collected	ginal Bkgnd Height ====== cation: 7 : 12/4/20	Time 12:37:44 12:38:18 12:38:51	Peak Store Yes Yes Yes
equer ample nalys eplice epl # 1 2 3 (ean: D: RSD:	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985 Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	413380-002 StndConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	PDISS BlnkCorr Signal 0.078 0.078 0.077 0.078 0.077	Peak Area 0.292 0.293 0.289	Peak Height 0.080 0.080 0.080	Type: Ori Bkgnd Area	ginal Bkgnd Height ====== cation: 7 : 12/4/20	Time 12:37:44 12:38:18 12:38:51	Peak Store Yes Yes Yes
dequer sample analys deplicate	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985 CAMPARITE OF STREET	413380-002 StndConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	PDISS BlnkCorr Signal 0.078 0.078 0.077 0.078 0.0005 0.70	Peak Area 0.292 0.293 0.289	Peak Height 0.080 0.080 0.080	Type: Ori Bkgnd Area ampler Lo Collected	ginal Bkgnd Height ====== cation: 7 : 12/4/20	Time 12:37:44 12:38:18 12:38:51	Peak Store Yes Yes Yes
equer ample nalys eplic epl # 1 2 3 ean: D: RSD: ===== equer ample nalys	E ID: K141338 St: Cate Data: K1 SampleConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985 COURT OF THE PROOF OF THE	413380-002 StndConc ug/L 1.616 1.614 1.595 1.608 0.0112 0.6985	PDISS BlnkCorr Signal 0.078 0.078 0.077 0.078 0.0005 0.70	Peak Area 0.292 0.293 0.289	Peak Height 0.080 0.080 0.080	Type: Ori Bkgnd Area ampler Lo Collected	ginal Bkgnd Height ======= cation: 7 : 12/4/20 ginal	Time 12:37:44 12:38:18 12:38:51	Peak Store Yes Yes Yes

Date: 12/4/2014 1:11:23 PM Page 24 Method: As Hydride 0.082 0.024 0.089 0.022 0.081 0.4429 0.021 12:40:01 Yes 0.4429 1 0.4111 0.4111 0.020 12:40:35 2 Yes 0.081 3 0.4463 0.4463 0.022 12:41:09 Yes 0.4334 Mean: 0.4334 0.021 0.0194 0.0009 0.0194 SD: %RSD: 4.485 4.485 4.49 Autosampler Location: 78 Sequence No.: 93 Date Collected: 12/4/2014 12:42:00 PM Sample ID: K1413380-003DDISS Analyst: Data Type: Original Replicate Data: K1413380-003DDISS Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak
 ug/L
 Signal
 Area
 Height
 Area
 Height

 0.3700
 0.018
 0.044
 0.020

 0.3791
 0.018
 0.066
 0.021

 0.4082
 0.020
 0.067
 0.022
 Stored # 0.3700 12:42:15 Yes 1 0.3791 Yes 12:42:49 2 12:43:23 3 0.4082 0.3858 0.019 Mean: 0.3858 0.0200 0.0010 0.0200 SD: %RSD: 5.173 5.173 5.17 Autosampler Location: 5 Sequence No.: 94 Date Collected: 12/4/2014 12:44:10 PM Sample ID: CCV Data Type: Original Analyst: ______ Replicate Data: CCV Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak Height Area ug/L ug/L Signal Area Height Stored # 1.378 0.380 1.381 0.376 12:44:28 Yes 7.801 7.801 0.378 7.713 0.374 7.754 0.376 7.756 0.376 0.378 1 7.801 12:45:02 2 7.713 7.754 1.409 0.378 12:45:36 3 Mean: 7.756 SD: 0.0439 0.0439 0.0021 %RSD: 0.5664 0.5664 0.57 QC value within limits for As 193.70 Recovery = 103.41% All analyte(s) passed QC. Sequence No.: 95 Autosampler Location: 1 Date Collected: 12/4/2014 12:46:35 PM Sample ID: CCB Data Type: Original Analyst: Replicate Data: CCB Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak # ug/L ug/L Signal Area Height Area Height
1 0.1557 0.1557 0.008 0.035 0.010
2 0.0996 0.0996 0.005 0.013 0.007
3 0.0524 0.0524 0.003 0.011 0.005
Mean: 0.1026 0.1026 0.005

Strictory Feak Brying Bryi Stored 12:46:51 Yes 12:47:25 12:47:59 Yes SD: 0.0517 0.0517 0.0025 %RSD: 50.42 50.42 50.42 0.0025 QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC. _______ Autosampler Location: 79 Sequence No.: 96 Sample ID: K1413380-003SDISS Date Collected: 12/4/2014 12:48:48 PM Data Type: Original Analvst: ______ Replicate Data: K1413380-003SDISS ug/L ug/L Signal Area Height Area Height
7.897 7.897 0.383 1.431 0.385 12.49.04 Peak Repl SampleConc StndConc BlnkCorr Peak Peak Stored 12:49:04 1

Date: 12/4/2014 1:11:23 PM Method: As Hydride Page 25 1.456 0.411 1.536 n 200 8.440 0.409 8.173 0.396 8.440 12:49:38 Yes 2 12:50:12 3 8.173 Mean: 8.170 8.170 0.396 0.2714 0.0132 0.2714 SD: %RSD: 3.322 3.322 3.32 _______ Autosampler Location: 80 Sequence No.: 97 Sample ID: K1413380-004DISS Date Collected: 12/4/2014 12:51:00 PM Data Type: Original Analyst: Replicate Data: K1413380-004DISS Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak ug/L Signal Area Height Area Height
2.236 0.108 0.416 0.111
2.232 0.108 0.416 0.110
2.247 0.109 0.394 0.111
2.238 0.108 Stored # ug/L 12:51:15 2.236 1 12:51:49 Yes 2.232 2 12:52:23 2.247 Yes 3 Mean: 2.238 SD: 0.0076 0.0076 0.000 %RSD: 0.3383 0.3383 0.34 0.0076 0.0004 ______ Autosampler Location: 81 Sequence No.: 98 Date Collected: 12/4/2014 12:53:11 PM Sample ID: K1413380-005DISS Analyst: Data Type: Original ______ Replicate Data: K1413380-005DISS Time Peak Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd
 ug/L
 Signal
 Area
 Height
 Area

 2.505
 2.505
 0.121
 0.459
 0.124

 2.721
 2.721
 0.132
 0.475
 0.134

 2.565
 2.565
 0.124
 0.463
 0.127

 2.597
 2.597
 0.126
 Stored Height # 12:53:27 1 Yes 12:54:00 Yes 2. 12:54:34 3 Mean: 2.597 0.1112 0.0054 0.1112 SD: %RSD: 4.280 4.280 4.28 _______ Sequence No.: 99 Autosampler Location: 82 Date Collected: 12/4/2014 12:55:22 PM Sample ID: K1413380-006DISS Data Type: Original Analyst: ______ Replicate Data: K1413380-006DISS Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak
 ug/L
 ug/L
 Signal
 Area
 Height

 -0.0008
 -0.0008
 -0.000
 -0.037
 0.002

 0.0333
 0.0333
 0.002
 0.009
 0.004

 0.0235
 0.0235
 0.001
 0.008
 0.003
 Height Area Stored # Height -0.037 0.002 12:55:38 Yes 1 0.0333 12:56:12 2 12:56:46 0.0235 3 Mean: 0.0187 0.0187 0.001 SD: 0.0175 0.0175 0.0008 %BSD: 93.80 93.80 93.80 %RSD: 93.80 93.80 93.80 Sequence No.: 100 Autosampler Location: 83 Date Collected: 12/4/2014 12:57:34 PM Sample ID: K1413380-007DISS Data Type: Original Analyst: _____ Replicate Data: K1413380-007DISS
 Repl
 SampleConc
 StndConc
 BlnkCorr
 Peak
 Peak
 Bkgnd

 #
 ug/L
 ug/L
 Signal
 Area
 Height
 Area

 1
 1.815
 1.815
 0.088
 0.337
 0.090

 2
 1.819
 1.819
 0.088
 0.335
 0.090

 3
 1.790
 1.790
 0.087
 0.323
 0.089
 Peak Bkgnd Bkgnd Time Stored Height 12:57:51 Yes 2 1.819 3 1.790 1.790 Mean: 1.808 1.808 0.088 SD: 0.0160 0.0160 0.0008 0.8860 0.8860 0.89 12:58:24 12:58:59 Yes Yes

Autosampler Location: 84 Sequence No.: 101

Date Collected: 12/4/2014 12:59:47 PM Sample ID: K1412945-001DISS

Data Type: Original Analyst:

Replicate Data: K1412945-001DISS

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.0367	0.0367	0.002	0.012	0.004			13:00:04	Yes
2	0.0265	0.0265	0.001	0.001	0.003			13:00:37	Yes
3	0.0114	0.0114	0.001	0.001	0.003			13:01:11	Yes
Mean:	0.0249	0.0249	0.001						
SD:	0.0127	0.0127	0.0006						
%RSD:	51.14	51.14	51.14						

Autosampler Location: 67 Sequence No.: 102

Date Collected: 12/4/2014 1:02:00 PM Sample ID: K1413380-003

Data Type: Original Analyst:

Replicate Data: K1413380-003

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.4725	0.4725	0.023	0.089	0.025			13:02:16	Yes
2	0.3830	0.3830	0.019	0.016	0.021			13:02:50	Yes
3	0.4540	0.4540	0.022	0.045	0.024			13:03:25	Yes
Mean:	0.4365	0.4365	0.021						
SD:	0.0473	0.0473	0.0023						
%RSD:	10.83	10.83	10.83						

User canceled analysis.

Analysis Begun

Technique: AA FIAS-Flame Logged In Analyst: ALKLS.ALKLSXP315 Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90

Sample Information File: C:\data-AA\ACQMET10\Sample Information\120414-As1.sif

Batch ID: 120414-As1

Results Data Set: 120414-As1

Results Library: C:\data-AA\ACQMET10\Results\Results Se 2013.mdb

12.36

Sequence No.: 103

Autosampler Location: 85

Date Collected: 12/4/2014 1:04:07 PM Sample ID: K1412945-001DISS Data Type: Original

Analyst:

12.36

Replicate Data: K1412945-001DISS

	Jacob Darom. 11								
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1638	0.1638	0.008	0.009	0.010			13:04:23	Yes
2	0.1749	0.1749	0.008	-0.008	0.011			13:04:57	Yes
3	0.2071	0.2071	0.010	0.037	0.012			13:05:31	Yes
Mean:	0.1819	0.1819	0.009						
SD:	0.0225	0.0225	0.0011						

Sequence No.: 104

Autosampler Location: 5 Date Collected: 12/4/2014 1:06:20 PM Sample ID: CCV

Analyst:

%RSD: 12.36

Data Type: Original

Replicate Data: CCV

Bkgnd Bkgnd Time SampleConc StndConc BlnkCorr Peak Peak Peak Repl

Method: As Hydride	Page 27	Date: 12/4/2014 1:11:23 PM

# 1 2	ug/L 7.953 7.270	ug/L 7.953 7.270	Signal 0.385 0.352	Area 1.477 0.899	Height 0.388 0.355	Area	Height	13:06:38 13:07:12	Stored Yes Yes
Cha	anging BOC								
3	7.963	7.963	0.386	1.389	0.388			13:07:46	Yes
Mean:	7.729	7.729	0.375						
SD:	0.3971	0.3971	0.0192						
%RSD:	5.138	5.138	5.14						
Cha	anging BOC								
00	1 + h i n	limita f	ar 7a 102 7	O Bocotto	227 - 103	052			

QC value within limits for As 193.70 Recovery = 103.05%

All analyte(s) passed QC.

Sequence No.: 105 Sample ID: CCB

Autosampler Location: 1

Date Collected: 12/4/2014 1:08:37 PM

Analyst: Data Type: Original

Replicate Data: CCB									
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1444	0.1444	0.007	0.030	0.009			13:08:53	Yes
2	0.0089	0.0089	0.000	-0.046	0.003			13:09:27	Yes
3	0.0622	0.0622	0.003	0.013	0.005			13:10:01	Yes
Mean:	0.0718	0.0718	0.003						
SD:	0.0683	0.0683	0.0033						
%RSD:	95.07	95.07	95.07						

QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC.



December 33, 2014

Manu Animani

8725 Rosehill Suite 350

Lenexa, KS 66215

Arcadis

ALS Environmental ALS Group USA, Corp 1317 South 13th Avenue Kelso, WA 98626

T: 1-360-577-7222 F: 1-360-636-1068 www.alsglobal.com

Analytical Report for Service Request No: K1412993

RE: Armor Rd. KCMO/KC001649.0001

Dear Manu:

Enclosed are the results of the sample(s) submitted to our laboratory on November 18, 2014. For your reference, these analyses have been assigned our service request number **K1412993**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at gregory.salata@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Gregory Salata, Ph.D. Client Services Manager

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Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LOD Limit of Detection
LOQ Limit of Quantitation

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater than or

equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso State Certifications, Accreditations, and Licenses

Web Site	Number
http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
http://www.azdhs.gov/lab/license/env.htm	AZ0339
http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Not available	_
http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
http://www.pjlabs.com/	L14-50
http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Not available	WA01276
http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156,00.html	9949
http://www.health.state.mn.us/accreditation	053-999-457
http://www.dphhs.mt.gov/publichealth/	CERT0047
http://ndep.nv.gov/bsdw/labservice.htm	WA01276
http://www.nj.gov/dep/oqa/	WA005
http://www.dwqlab.org/	605
http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
http://www.scdhec.gov/environment/envserv/	61002
http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
http://dnr.wi.gov/	998386840
http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
www.alsglobal.com	NA
	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx http://www.azdhs.gov/lab/license/env.htm http://www.adeq.state.ar.us/techsvs/labcert.htm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx http://www.pjlabs.com/ http://www.pjlabs.com/ http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx Not available http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156,00.html http://www.health.state.mn.us/accreditation http://www.deplhs.mt.gov/publichealth/ http://www.dphhs.mt.gov/publichealth/ http://www.nj.gov/bsdw/labservice.htm http://www.nj.gov/bsdw/labservice.htm http://www.deq.state.ok.us/CSDnew/labcert.htm http://www.deq.state.ok.us/CSDnew/labcert.htm http://www.deq.state.ok.us/CSDnew/labcert.htm http://www.deq.state.ok.us/CSDnew/labcert.htm http://www.scdhec.gov/environment/envserv/ http://www.scdhec.gov/environment/envserv/ http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html http://dnr.wi.gov/ http://www.epa.gov/region8/water/dwhome/wyomingdi.html

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

ALS ENVIRONMENTAL

Client:ARCADIS U.S., Inc.Service Request No.:K1412993Project:Armor Rd. KCMO/ KC001649.0001Date Received:11/18/14

Sample Matrix: Water

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at ALS Environmental on 11/18/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Total and Dissolved Metals

Matrix Spike Recovery Exceptions:

The control criteria for matrix spike recovery of Arsenic for the Total and Dissolved samples GWM-8B (20141117) were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No other anomalies associated with the analysis of these samples were observed.

Approved by Selegely Salata _____



Chain of Custody

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

A	ARCADIS	
Infrastruc	ure - Water - Environment - Buildings	

ID#:	

CHAIN OF CUSTODY & LABORATORY Page ___ of ___

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GWM-8B(20141117) Dup-03 (20141117) GWM-8B(20141117) MS GWM-8B(20141117) MSD	11-17-14 1700 V W 11-17-14 1700 V W				
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Cooler Receipt and Preservation Form

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ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001 Date Collected: 11/17/14

Project Name: Armor Rd. KCMO Date Received: 11/18/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-8B (20141117) Lab Code: K1412993-001

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	5000	1000	10000.0	11/21/14	12/04/14	24000		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001 Date Collected: 11/17/14

Project Name: Armor Rd. KCMO Date Received: 11/18/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: GWM-8B (20141117) Lab Code: K1412993-001DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	5000	1000	10000.0	11/21/14	12/04/14	23300		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001 Date Collected: 11/17/14

Project Name: Armor Rd. KCMO Date Received: 11/18/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: Dup-03 (20141117) Lab Code: K1412993-002

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	5000	1000	10000.0	11/21/14	12/04/14	23900		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001 Date Collected: 11/17/14

Project Name: Armor Rd. KCMO Date Received: 11/18/14

Matrix: WATER Units: ug/L

Basis: NA

Sample Name: Dup-03 (20141117) Lab Code: K1412993-002DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	5000	1000	10000.0	11/21/14	12/04/14	28200		

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001 Date Collected:

Project Name: Armor Rd. KCMO Date Received:

Matrix: WATER ug/L

Basis: NA

Sample Name: K1412945-MB Lab Code: K1412993-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	7062	1.0	0.2	2.0	11/21/14	12/04/14	0.2	υ	



Metals - 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001
Project Name: Armor Rd. KCMO

ICV Source: Inorganic Ventures CCV Source: ALS MIXED

Concentration Units: ug/L

	Initial	Calibratio	on		Continui	ing Cali	bration		
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Arsenic	7.50	7.49	100	7.50	7.19	96	7.13	95	7062



Metals - 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001
Project Name: Armor Rd. KCMO

ICV Source: Inorganic Ventures CCV Source: ALS MIXED

Concentration Units: ug/L

	Initia	al Calibrat	ion						
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Arsenic				7.50	7.02	94	7.67	102	7062



- 2b -

CRDL STANDARD FOR AA AND ICP

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001

Project Name: Armor Rd. KCMO

Concentration Units: ug/L

	CRDL Stand	dard for AA		In	CRDL Stand itial	ard for	ICP Final	
Analyte	True	Found	%R	True	Found	%R	Found	%R
Arsenic	0.50	0.48	96	Ī				

- 3 -BLANKS

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001
Project Name: Armor Rd. KCMO

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank			Continuing Calibration Blank (ug/L)							
Analyte	(ug/L)	C	1	С	2	C	3	C	Method		
Arsenic	0.1	Ū	0.	1 U	0	.1 U	0.1	U	7062		

- 3 -BLANKS

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001
Project Name: Armor Rd. KCMO

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank								
Analyte	(ug/L)	C	1	C	2	C	3	C	Method
Arsenic			0.	1 U					7062



Metals - 5A -

SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc

Service Request: K1412993

Basis:

Project No.: KC001649.0001
Project Name: Armor Rd. KCMO

Units: UG/L

NA

Matrix: WATER

Sample Name: GWM-8B (20141117)S

Lab Code: K1412993-001S

Analyte	Control Limit %R	Spike Result	С	Sample Result	С	Spike Added	%R	Q	Method
Arsenic		23300	Ī	24000		16.00	-4375.0		7062

Metals - 5A -

SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc Service Request: K1412993 Units:

Project No.: KC001649.0001 Project Name: Armor Rd. KCMO

Basis: NA

UG/L

Matrix: WATER

> Sample Name: GWM-8B (20141117)S

Lab Code: K1412993-001DISSS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic		22300	Ī	23300		16.00	-6250.0		7062



- 5B -

POST SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc Service Request: K1412993 Units:

Project No.: KC001649.0001 Project Name: Armor Rd. KCMO

Basis: NA

UG/L

Matrix: WATER

> Sample Name: Batch QCA

Lab Code: K1412945-001A

Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Arsenic	80 - 120	6.3	1.6	5.0	94.0		7062

- 6 -DUPLICATES

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001 Units: UG/L

Project Name: Armor Rd. KCMO Basis: NA

Matrix: WATER

Sample Name: GWM-8B (20141117)D Lab Code: K1412993-001D

Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q	Method
Arsenic		24000		23300		3.0		7062

- 6 -DUPLICATES

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001 Units: UG/L

Project Name: Armor Rd. KCMO Basis: NA

Matrix: WATER

Sample Na	ame: GWM-8	BB (20141117)D		Lab Code: 1	(1412	993-00)1DIS	SD	
Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q	Method	
Arsenic		23300		21300		9.0		7062	



Metals - 7 -

LABORATORY CONTROL SAMPLE

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001
Project Name: Armor Rd. KCMO

Aqueous LCS Source: ALS MIXED Solid LCS Source:

	Aqueous	(ug/L)			Soli	d (mg/l	(g)	
Analyte	True	Found	%R	True	Found	С	Limits	%R
Arsenic	10	9.6	96.0					

dba ALS Environmental

Metals

- 10 -

DETECTION LIMITS

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001

Project Name: Armor Rd. KCMO

ICP/ICP-MS ID #:

GFAA ID #: K-FLAA-02 AA ID #:

Analyte	Wave- length (nm)	Back- ground	MRL ug/L	MDL ug/L	М
Arsenic	193.6		0.5	0.1	Н



Metals -13-PREPARATION LOG

Client: ARCADIS U.S., Inc Service Request: K1412993

Project No.: KC001649.0001
Project Name: Armor Rd. KCMO

Method: F

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1412993-001	11/21/14	50.0	50.0
K1412993-001D	11/21/14	50.0	50.0
K1412993-001DISS	11/21/14	50.0	50.0
K1412993-001DISSD	11/21/14	50.0	50.0
K1412993-001DISSS	11/21/14	50.0	50.0
K1412993-001S	11/21/14	50.0	50.0
K1412993-002	11/21/14	50.0	50.0
K1412993-002DISS	11/21/14	50.0	50.0
K1412993-MB	11/21/14	50.0	50.0
LCSW	11/21/14	50.0	50.0

ALS Group USA, Corp.

Metals - 14 -

ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc

Service Request: K1412993

Project No.: KC001649.0001

Run Number: 120414-As1

Project Name: Armor Rd. KCMO

Instrument ID Number: K-FLAA-02 Method: H

Start Date: 12/04/14 End Date: 12/04/14

	<u> </u>												Ana	ıly	tes	3										
Sample No.	D/F	Time	% R	A L	S B	A S	B A	B E	C D	C A	C R	О С	F E		M G		H G	N I	K	S E	A G	N A	T L	V	Z N	C N
CAL BLK	1.0	09:09				Х																				
STD 0.5	1.0	09:11				х																				
STD 1.0	1.0	09:13				х																				
STD 5.0	1.0	09:15				х																				
STD 7.5	1.0	09:17				х																				
STD 10.0	1.0	09:20				х																				
ICV	1.0	09:22				х																				
ICB	1.0	09:28				х																				
CRA	1.0	09:30				х																				
ZZZZZZ	1.0	09:33																								
CCV1	1.0	09:35				х																				
CCB1	1.0	09:37				х																				
K1412993-MB	2.0	09:40				х																				
LCSW	2.0	09:42				х																				
ZZZZZZ	20.0	09:44																								
K1412945-001A	1.0	09:46				х																				
ZZZZZZ	20.0	09:49																								
ZZZZZZ	20.0	09:51																								
ZZZZZZ	20.0	09:53																								
ZZZZZZ	20.0	09:56																								
ZZZZZZ	20.0	09:58																								
ZZZZZZ	2.0	10:00																								
CCV2	1.0	10:02				х																				
CCB2	1.0	10:05				х																				
ZZZZZZ	40.0	10:07																								
ZZZZZZ	20.0	10:09																								
ZZZZZZ	20.0	10:11																								
ZZZZZZ	20.0	10:14																								
ZZZZZZ	20.0	10:16																								
ZZZZZZ	20.0	10:18																								
ZZZZZZ	20.0	10:20																								
ZZZZZZ	2.0	10:23																								

 $[\]star$ - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

ALS Group USA, Corp.

Metals - 14 -

ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc

Service Request: K1412993

Project No.: KC001649.0001

Run Number: 120414-As1

Project Name: Armor Rd. KCMO

Instrument ID Number: K-FLAA-02

Method: H

Start Date: 12/04/14

End Date: 12/04/14

												ž	Ana	.lyt	es	;									
Sample No.	D/F	Time	% R	A L	S B	A S	B A	B E	C D	C A	C R	C D	F E	P B			H G	N	K	S E	A G	N A	v	Z N	
ZZZZZZ	20.0	10:25																							Γ
K1412993-001	LO,000.	10:27				х																			
CCA3	1.0	10:29				х																			
CCB3	1.0	10:32				х																			
K1412993-001D	LO,000.					х																			
K1412993-001S	LO,000.					х																			
K1412993-002	LO,000.					х																			
K1412993-001DISS	LO,000.					х																			
K1412993-001DISSD	LO,000.	10:43				х																			
K1412993-001DISSS	LO,000.					х																			
K1412993-002DISS	LO,000.	10:47				х																			
ZZZZZZ	2.0	10:49																							
ZZZZZZ	2.0	10:52																							
ZZZZZZ	100.0	10:54																							
CCV4	1.0	10:56				X																			
CCB4	1.0	10:58				х																			

 $[\]star$ - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



Raw Data

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com



ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

Preparation Information Benchsheet

Status:

Prep Run: 224036

Prep Workflow: MetDig3010A

Prepped

Prep Date: 11/21/2014 11:25

Team: Metals

Anna

Prep Method: EPA 3010A Current Step: Digestion

Due Date: 11/26/2014

Analyst:

Cheatley

Rush/NPDES: N/A

Hold Date: 05/11/2015

Lab Code	Chent 10	DOLLIC: W	Assition Mill	Final Volume	Dpike Ain	Shike in	Testivo List	Comments
KQ1415305-01	Method Blank		50 ml.	50 mL			As D, AS_T	6%HNO3,5%HC
KQ1415305-02	Lab Control Sample		50 mL	50 mL	0.2 mL	74484	As D, AS_T	6%HNO3,5%HC
K1412945-001	GWM-6S (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412945-001	GWM-6S (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412945-002	GWM-13D (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412945-002	GWM-13D (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412945-003	GWM-5S (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412945-003	GWM-5S (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412945-004	GWM-5D (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412945-004	GWM-5D (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412945-005	GWM-4S (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412945-005	GWM-4S (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412945-006	GWM-4D (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412945-006	GWM-4D (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412945-007	FB-02 (20141112)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412945-007	FB-02 (20141112)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412945-008	GWM-2B (20141114)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412945-008	GWM-2B (20141114)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412993-001	GWM-8B (20141117)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412993-001	GWM-8B (20141117)	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412993-001: KQ1415305-03	Duplicate	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC
K1412993-001: KQ1415305-05	Duplicate	.01	50 mL	50 mL			As D	6%HNO3,5%HC
K1412993-001: KQ1415305-04	Matrix Spike	.02	50 mL	50 mL	0.2 mL	73067	AST	6%HNO3,5%HC
K1412993-001: KQ1415305-06	Matrix Spike	.01	50 mL	- 50 mL	0.2 mL	73067	As D	6%HNO3,5%HC
K1412993-002	Dup-03 (20141117)	.02	50 mL	50 mL			AS_T	6%HNO3,5%HC

K1412993-002	Dup-03 (20141	117)	.01		50 mL	50 mL		As D	6%t	INO3,5%HCI
	iples consistin ent Prep Run.	g of 10 (Client	t Sar	nples, 4 (Client QC Sam	ples, 2 Batch	n QC Sample	es ass	ociated
Spiking Sol	utions	***************************************								
Name		Тур	e e	ID	Expires	Name		Туре	ID	Expires
K-MET GFLCSW		Spil	ke	7448	4 2/1/2015	K-MET SS2		Spike	7306	7 12/20/2014
Step Name Digestion K-ME	Г НNОЗ				75020 76516	Step Name Digestion K-MET	50ml Centrifuge	e Tube		ID 76731
Digestion K-ME	r HCL				1/0210					
Preparation	Hardware ,				1/6516	Sten	Name	Property	Value	VI., A. 19. A. 20. A. 19. A. 19. A. 19. A. 19. A. 19. A. 19. A. 19. A. 19. A. 19. A. 19. A. 19. A. 19. A. 19. A
Preparatior Step		Property Thermome ID 113419	Va ter 5	ilue	deg C	Step Digestion	Name K-HotPlate- 06	Property Thermometer ID 1134275	Value 96	deg C
	Name K-HotPlate-	Property Thermome	va ter 5	ilue			K-HotPlate-	Thermometer		deg C
Preparation Step Digestion Digestion	Name K-HotPlate- 02 K-HotPlate- 03	Property Thermome ID 113419 Thermome	va ter 5	ilue	deg C		K-HotPlate-	Thermometer		deg C
Preparation Step Digestion Digestion Preparation	Name K-HotPlate- 02 K-HotPlate- 03	Property Thermome ID 113419 Thermome ID 113444	va ter 5	ilue	deg C		K-HotPlate- 06	Thermometer ID 1134275	96	deg C
Preparation Step Digestion	Name K-HotPlate- 02 K-HotPlate- 03 Steps	Property Thermome ID 113419 Thermome ID 113444	tter 97 ster 2 shed NOV-1	<u>E</u>	deg C	Digestion Assisted B	K-HotPlate- 06	Thermometer ID 1134275	96	deg C
Preparation Step Digestion Digestion Preparation Step	Name K-HotPlate- 02 K-HotPlate- 03 Steps Starte 21-NO	Property Thermome ID 113419 Thermome ID 113444	tter 97 ster 2 shed NOV-1	<u>E</u>	deg C deg C	Digestion Assisted B	K-HotPlate- 06	Thermometer ID 1134275	96	deg C

Reviewed by: Date: W25/14

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Solution		mLs of 1000ppm	Final	Solution	Enter ml
Name	Element	Solution	Volume	Conc. mg/L	Added
	HNO3	50.0	1000ml	•	
	Al	100*	1000ml	200	
	Ag	100*	1000ml	5	
	Ba	100*	1000ml	200	
	Be	*001	1000ml	5	
	Cd	100*	1000ml	5	
	Co	100*	1000ml	50	
K-MET SS1	Cr	100*	1000ml	20	
	Cu	100*	1000mJ	25	
	Fe	100*	1000ml	100	
	Pb	100*	1000ml	50	
*** Add after HNO3	Mn	100*	1000ml	50	
and before cas cal	Ni	100*	1000ml	50	
-14	Sb***	50	1000ml	50	
when making the	v	100*	1000ml	50	
solution	Zn	100*	1000ml	50	
	HNO3	25.0	500ml	-	
K-MET SS2	As	2.0	500ml	4	
	Cd	2.0	500ml	4	
1	Pb	2.0	500ml	4	
	Se	2.0	500ml	4	
	TI	2.0	500ml	4	
	Cu	2.0	500ml	4	
W AVET GGO	10100				
K-MET SS3	HNO3	25.0	500ml	-	
	As	50.0	500ml	100	
	Se	50,0	500ml	100	
	TI	50,0	500ml	100	
	Hg	6	500	12	<del> </del>
V MOTE CO.	HNO3	25	500ml	-	
K-MET SS4	В	50	500ml	100	
	Мо	50	500ml	100	
					<b>†</b>
K-MET SS5	HNO3	10.0	200ml	-	
	K**	20	200ml	1000	
	Na**	20	200ml	1000	
	Mg**	20	200ml	1000	
	Ca**	20	200ml	1000	

IZ MOOTE COST COM	Inios	10.0		***************************************	
K-MET GFLCSW	HNO3	10,0	1000mf	-	
	As, Pb, Se, Tl	5.0	1000ml	2.5	
	Cd		-	1.25	
	Cu	2.5	1000ml	2.5	
K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	-	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
·	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
	Be	no dilution	-	25	
K-MET QCP-CICV-2	Sb	no dilution	-	500	***************************************
K-MET QCP-CICV-3	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

* Denotes volume of mixed stock standard.

*		) ppm individua	I stock standards.	
Standard	mls of standard	ppm	Logbook #	Exp. Date
				<u> </u>

Element Analyzed: Se Hydride Instrument: K-FLAA-02 Service Request #: K1412945, K1412993, K1413402, K1413380 K1412993, K1413402, K1413380 Batch QC SR's #: **Expiration Date:** 4/2/2015 Calibration Std.: AA1-16-D 2nd Source Std.: AA1-16-C Expiration Date: 1/18/2015 Starlims #: 424209 120414-As1 Run #: Hydride Data Review Form NA Yes No Χ ICV within 10% of true Value 2. Calibration data included CCV's in control 4. CCB's and/or ICB's below MRL 5. All reported Results within Cal. Range 6. All Calculations are Correct Comments Primary Reviewed by: Date: Date: Secondary Reviewed by: JOB

	8
Method: (Circle Method Used)	Service Request #:
7742 2062	
Other:	·
Element As Se	

SAMPLE	Dilution	Measured	Recoveries	Comments
NUMBER	Factor	$(\mu g/L)$	(ICV, CCV, CRA, LCS,	
			Matrix Spk.)	Post Spike = 5 ppb
Cal. Blk		0.000		
Cal. Std 0.5	-	0.500	*(0.025-50ml)	*Cal. Std = AA1-16-D
Cal. Std 1.0		1.000	*(0.05-50ml)	
Cal. Std 5.0	-	5.000	*(0.25-50ml)	
Cal. Std 7.5	-	7.500	*(0.375-50ml)	
Cal. Std 10.0	-	10.000	*(0.5-50ml)	
ICV	-	7.485	100%	ICV Std = AA1-16-C
ICB	-	0.047		
CRA	-	0.483	97%	
CCV	-	6.692	89%	
CCV	_	7.191	96%	
CCB	-	0.050		
K1412945-MB	1/2	0.006		
LCSWK1412945	1/2	4.808	96%	
K1412945-001	1/2*1/10	1.594		
K1412945-001A	1/2*1/10	6.301	94%	
K1412945-002	1/2*1/20	1.962		
K1412945-003	1/2*1/20	2.311		
K1412945-004	1/2*1/10	2.923		
K1412945-005	1/2*1/10	1.582		·
K1412945-006	1/2*1/10	3.229		
K1412945-007	1/2	0.021		
CCV	-	7.128	95%	
CCB	-	0.058		
K1412945-008	1/2*1/20	3.087		
<del>K1412945-</del> 001DISS	1/2*1/10	-0.164	- ROS 12444	
K1412945-002DISS	1/2*1/20	1.548		
K1412945-003DISS	1/2*1/20	2.146	A MATERIA CONTRACTOR OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PR	
K1412945-004DISS	1/2*1/10	2.594		
K1412945-005DISS	1/2*1/10	1.162		

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D0455	(40) Soil (	Spike
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	99.6mg/kg (70-130%)	40ppb (75-125%	6)
Selenium	10ppb (80-120%)	16ppb (75-125%)	150mg/kg (68-132%)	40ppb (75-125%	o)
Cx = MSA Corrected Conce	ntration (as per met	hod)			

Analyst	Date:	Page Number:
6:9//	la ul s	1
In Man	144/14	

Method: (Circle Method Used)	Service Request #:
7742 (7062)	
Other:	
Element: As Se	

SAMPLE	Dilution	Measured	Recoveries	Comments
NUMBER	Factor	$(\mu g/L)$	(ICV, CCV, CRA, LCS,	
			Matrix Spk.)	Post Spike = 5 ppb
K1412945-006DISS	1/2*1/10	2.857		
K1412945-007DISS	1/2	0.086		
K1412945-008DISS	1/2*1/20	3.398		
K1412993-001	1/2*1/5000	2.403		
CCV	-	7.019	94%	
CCB	-	0.058		
K1412993-001D	1/2*1/5000	2.328		
K1412993-001S	1/2*1/5000	2.333	Sample is 4X	
K1412993-002	1/2*1/5000	2.393		
K1412993-001DISS	1/2*1/5000	2.329		
K1412993-001DDISS	1/2*1/5000	2.129		
K1412993-001SDISS	1/2*1/5000	2.226	Sample is 4X	
K1412993-002DISS	1/2*1/5000	2.815		
K1413402-MB	1/2	0.017		
LCSWK1413402	1/2	4.886	98%	
K1413402-001	1/2*1/50	2.121		
CCV		7,665	102%	
CCB	-	0.075		
K1413402-002	1/2*1/10	2.872		
K1413402-002D	1/2*1/10	2.811		
K1413402-002S	1/2*1/10	3.483	76%	
K1413402-003	1/2*1/50	2.119		
K1413402-004	1/2	0.115		
K1413402-004A	1/2	4.835	97%	
K1413402-005	1/2*1/5	1,668		
K1413402-006	1/2*1/1000	1.889		
K1413402-007	1/2*1/2	1.962		
K1413402-008	1/2*1/1000	2.711		
CCV	-	7.727	103%	
ССВ	NO.	0.081		

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D04554	0) Soil-Spike
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	146.0mg/kg (80-120%)	20ppb (75-125%)
Selenium	10ppb (80-120%)	16ppb (75-125%)	192.0mg/kg (62-147%)	20ppb (75-125%)
Cx = MSA Corrected Concer	ntration (as per met	hod)		

Analyst	Date:	Page Number:
An The	12/4/19	2

Method; (Circle Method Used)	Service Request # :
7742 (7062)	
Other:	
Element: As Se	

SAMPLE	Dilution	Measured	Recoveries	Comments
NUMBER	Factor	(μg/L)	(ICV, CCV, CRA, LCS,	
			Matrix Spk.)	Post Spike = 5 ppb
K1413402-009	1/2	0.130		
K1413402-010	1/2*1/50	2.013		
K1413402-001DISS	1/2*1/50	2.431		
K1413402-002DISS	1/2*1/10	2.617		
K1413402-002DDISS	1/2*1/10	2.752		
K1413402-002SDISS	1/2*1/10	3.440	103%	
K1413402-003DISS	1/2*1/50	2.517		
K1413402-004DISS	1/2	0.094		
K1413402-005DISS	1/2*1/5	1.361		
K1413402-006DISS	1/2*1/1000	2.020		
CCV	-	7.677	102%	
CCB	_	0.079		
K1413402-007DISS	1/2*1/2	1.552		
K1413402-008DISS	1/2*1/1000	2.338		
K1413402-009DISS	1/2	0.084		
K1413402-010DISS	1/2*1/50	1.547		
K1413380-MB	1/2	0.011		
LCSWK1413380	1/2	4.922	98%	
K1413380-001	1/2	0.193		
K1413380-002	1/2*1/5	1.764		
K1413380-003	1/2	0.541		
K1413380-003A	1/2	5.193	95%	
CCV	-	7.650	102%	
CCB		0.095		
K1413380-003D	1/2	0.473		
K1413380-003S	1/2	8.533	101%	
K1413380-004	1/2*1/20	2.182		
K1413380-005	1/2*1/5	2.154		
K1413380-006	1/2	0.047		
K1413380-007	1/2*1/5	1.977		

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D04554	0) Soil Spike					
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	146.0mg/kg (80-120%)	20ppb (75-125%)					
Selenium	10ppb (80-120%)	16ppb (75-125%)	192.0mg/kg (62-147%)	20ppb (75-125%)					
Cx = MSA Corrected Concentration (as per method)									

Analyst	Date:	Page Number:
Sin Il	12/4/14	3 .

	O
Method: (Circle Method Used)	Service Request #:
7742 (062)	
Other:	
Flement: As Se	

SAMPLE	Dilution	Measured	Recoveries	Comments
NUMBER	Factor	(μg/L)	(ICV, CCV, CRA, LCS,	
		***************************************	Matrix Spk.)	Post Spike = 5 ppb
K1413380-001DISS	1/2	0.134		
K1413380-002DISS	1/2*1/5	1.608		
K1413380-003DISS	1/2	0.433		
K1413380-003DDISS	1/2	0.386		
CCV .		7.756	103%	
CCB	-	0.103		
K1413380-003SDISS	1/2	8.170	97%	
K1413380-004DISS	1/2*1/20	2.238		
K1413380-005DISS	1/2*1/5	2.597		
K1413380-006DISS	1/2	0.019		
K1413380-007DISS	1/2*1/5	1.808		
K1412945-001DISS	1/2*1/10	0.025		
4n K1413380-003	1/2	0.436		
K1412945-001DISS	1/2	0.182		
CCV		7.729	103%	
ССВ	-	0.072		
***************************************				
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True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D045540)	Soil Spike
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	146.0mg/kg (80-120%) 20	ppb (75-125%)
Selenium	10ppb (80-120%)	16ppb (75-125%)	192.0mg/kg (62-147%) 20	ppb (75-125%)
Cx = MSA Corrected Conce	ntration (as per met	nod)		

Analyst	Date:	Page Number:
Ber The	12/4/19	4

Peak

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Analysis Begun

Logged In Analyst: ALKLS.ALKLSXP315 Technique: AA FIAS-Flame Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90

Sample Information File: C:\data-AA\ACQMET10\Sample Information\120414-As1.sif

Batch ID: 120414-As1

Results Data Set: 120414-As1

Results Library: C:\data-AA\ACQMET10\Results\Results Se 2013.mdb

38.71

Sequence No.: 1

Sample ID: Cal Blk

Analyst:

Autosampler Location: 1

Date Collected: 12/4/2014 9:09:02 AM

Data Type: Original

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Replicate Data: Cal Blk Repl SampleConc StndConc BlnkCorr Peak Peak

Bkgnd Bkgnd Time ug/L Signal Area Height Area Height Stored ug/L Yes 09:09:18 -0.007 0.003 1 [0.00] 0.003 [0.00] 0.001 [0.00] 0.002 -0.012 0.001 09:09:52 Yes 2 0.005 0.002 09:10:26 Yes 3 0.002 [0.00] 0.0008 Mean: SD: 0.00

용RSD: Auto-zero performed.

Sequence No.: 2

Sample ID: Std 0.5

Analyst:

Autosampler Location: 2

Date Collected: 12/4/2014 9:11:14 AM

Data Type: Original

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Replicate Data: Std 0.5 Repl SampleConc StndConc BlnkCorr Peak Peak

Bkgnd Bkgnd Time Peak ug/L Signal Area Height Area
[0.5] 0.027 0.098 0.029
[0.5] 0.028 0.093 0.030
[0.5] 0.027 0.096 0.029 Height Stored ug/L 09:11:31 Yes 7 09:12:05 Yes 2 09:12:39 3

0.027 [0.5] Mean: 0.0 0.0006 SD: 0.0 2.30 %RSD:

0.00

Standard number 1 applied. [0.5]

Correlation Coef.: 1.000000 Slope: 0.05422 Intercept: 0.00000

Sequence No.: 3

Sample ID: Std 1.0 Analyst:

Autosampler Location: 3

Date Collected: 12/4/2014 9:13:28 AM

Data Type: Original

Replicate Data: Std 1.0

Peak Bkgnd Bkgnd Height Area Height Bkgnd Bkgnd Time Peak Repl SampleConc StndConc BlnkCorr Peak ug/L Signal Area Height [1.0] 0.053 0.176 0.055 Stored # ug/L 09:13:45 1 0.053 0.176 0.055 09:14:19 Yes [1.0] 2 09:14:53 0.182 0.055 Yes 3 [1.0] 0.052

0.053 Mean: [1.0] 0.0004 0.0 SD: %RSD: 0.0 0.76

Standard number 2 applied. [1.0] Correlation Coef.: 0.999361 Slope: 0.05303 Intercept: 0.00000

Autosampler Location: 4 Sequence No.: 4

Date Collected: 12/4/2014 9:15:42 AM Sample ID: Std 5.0

Data Type: Original Analyst:

epl	ate Data: St								
	SampleConc			Peak	Peak	Bkgnd	Bkgnd	Time	Peak .
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1		[5.0]	0.249	0.853	0.252			09:16:00	Yes
2		[5.0]	0.250	0.849	0.252			09:16:34	Yes
3		[5.0]	0.250	0.855	0.252			09:17:08	Yes
lean:		[5.0]	0.250						
D:		0.0	0.0004						
RSD:		0.0	0.16						
tandaı	rd number 3	applied. [	5.0]						
orrela	ation Coef.:	0.999812	Slope: 0	.05014	Interce,	pt: 0.000	00		
=====		========						n agent sever water made shake press man area man area con tracted water water water style gifts back hand data style area	we would have been been their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their their
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epl	SampleConc		BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	J.	[7.5]	0.367	1.260	_		-	09:18:16	Yes
2		[7.5]	0.368	1.261	0.370			09:18:50	Yes
3		[7.5]	0.373		0.375			09:19:24	Yes
ean:		[7.5]	0.370						
D:		0.0	0.0033						
RSD:		0.0	0.88						
	rd number 4								
orrel:	ation Coef.:	0.999852	Slope: 0	.04955	Interce	pt: 0.000	00		
equend	ce No.: 6				Autosa	ampler Lo			
ample	ID: Std 10.	0						014 9:20:15	AM
ample nalyst	ID: Std 10. t:					Collected Type: Ori		9:20:15	AM
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Sequence No.: 7 Autosampler Location: 7

Sample ID: ICV Date Collected: 12/4/2014 9:22:32 AM

Analyst: Data Type: Original

Replicate Data: ICV

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.532	7.532	0.365	1.258	0.367			09:22:52	Yes
2	7.398	7.398	0.359	1.240	0.361			09:23:26	Yes
3	7.526	7.526	0.365	1.247	0.367			09:24:01	Yes
Mean:	7.485	7.485	0.363						

0.0756 0.0756 SD: 0.0037 %RSD: 1.011 1.01 1.011

QC value within limits for As 193.70 Recovery = 99.80%

All analyte(s) passed QC. User canceled analysis.

#### Analysis Begun

Logged In Analyst: ALKLS.ALKLSXP315 Technique: AA FIAS-Flame Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90

Sample Information File: C:\data-AA\ACQMET10\Sample Information\120414-As1.sif

Batch ID: 120414-As1

Results Data Set: 120414-As1

Results Library: C:\data-AA\ACQMET10\Results\Results Se 2013.mdb

Autosampler Location: 1

Sequence No.: 8

Date Collected: 12/4/2014 9:28:39 AM Sample ID: ICB

Data Type: Original Analyst:

Replicate Data: ICB

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.0734	0.0734	0.004	0.028	0.006			09:28:55	Yes
2	0.0516	0.0516	0.002	0.027	0.005			09:29:29	Yes
3	0.0148	0.0148	0.001	0.010	0.003			09:30:03	Yes
Mean:	0.0466	0.0466	0.002						

SD: 0.0296 0.0296 0.0014 %RSD: 63.54 63.54 63.54

QC value within limits for As 193.70 Recovery = Not calculated

All analyte(s) passed QC.

________________________________

Sequence No.: 9 Sample ID: CRA

Analyst:

Autosampler Location: 2 Date Collected: 12/4/2014 9:30:51 AM

Data Type: Original

______

Replicate Data: CRA

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
TT.	ug/ II	ug/11	Digital		_		*******		
1	0.4925	0.4925	0.024	0.089	0.026			09:31:07	Yes
2	0.4785	0.4785	0.023	0.090	0.025			09:31:41	Yes
3	0.4780	0.4780	0.023	0.089	0.025			09:32:15	Yes
Mean:	0.4830	0.4830	0.023						

0.0083 0.0004 0.0083 SD: %RSD: 1.708 1.708 1.71

QC value within limits for As 193.70 Recovery = 96.60%

All analyte(s) passed QC.

Sequence No.: 10

Autosampler Location: 5 Sample ID: CCV

Date Collected: 12/4/2014 9:33:04 AM

Data Type: Original Analyst:

______

Replicate Data: CCV

Me cuoc	l: As Hydride				Page 4	İ		Dace. 12/	/4/2014 1:11:	23 111
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	6.705	6.705	0.325	1.113	0.327			09:33:22	Yes	
2	6.705	6.705	0.325	1.116	0.327			09:33:56	Yes	
3	6.666	6.666	0.323	1.120	0.325			09:34:29	Yes	
Mean:	6.692	6.692	0.324							
SD:	0.0229	0.0229	0.0011							
%RSD:	0.3422	0.3422	0.34							
QC	value less t	han the lo	wer limit :	for As 1	93.70 Red	covery =	89.23%			
	led. Stop t									
User o	anceled anal	ysis.								
======	=======================================			=======						
Analys	sis Begun									
							_			
	l In Analyst:				Techn:					
Spectr	cometer Model	: AAnalyst	: 200, s/N :	200s5061'	701 Autosa	ampler Mo	del: AS-9	10		
	Information		data-AA\AC	QMET10/S	ample Info	ormation\	120414-As	l.sıİ		
	ID: 120414-A									
	s Data Set:									
Result	s Library: C	:\data-AA\	ACQMET10\R	esults\Re	esults Se	2013.mdb				

Sequence No.: 10

Autosampler Location: 5

Sample ID: CCV Analyst:

Date Collected: 12/4/2014 9:35:36 AM

Data Type: Original

Replic	ate Data: CC	.V							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.133	7.133	0.346	1.202	0.348			09:35:53	Yes
2	7.187	7.187	0.348	1.205	0.351			09:36:27	Yes
3	7.252	7.252	0.351	1.216	0.354			09:37:01	Yes
Mean:	7.191	7.191	0.349						
SD:	0.0594	0.0594	0.0029						•
%RSD:	0.8256	0.8256	0.83						
		* 1 1. ~	- 400 70		0.5	0.00			

QC value within limits for As 193.70 Recovery = 95.88%

All analyte(s) passed QC.

Sequence No.: 11 Sample ID: CCB

Autosampler Location: 1

Date Collected: 12/4/2014 9:37:52 AM

Analyst:

Data Type: Original

Replic	Replicate Data: CCB										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	0.0862	0.0862	0.004	0.023	0.006			09:38:08	Yes		
2	0.0407	0.0407	0.002	0.007	0.004			09:38:42	Yes		
3	0.0218	0.0218	0.001	0.003	0.003			09:39:16	Yes		
Mean:	0.0496	0.0496	0.002								
SD:	0.0331	0.0331	0.0016								
%RSD:	66.78	66.78	66.78								

QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC.

Autosampler Location: 9

Sequence No.: 12 Sample ID: K1412945-MB

Date Collected: 12/4/2014 9:40:05 AM

Analyst:

Data Type: Original

Replicate Data: K1412945-MB

Replicate Data. Rigizago in											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	0.0103	0.0103	0.000	0.006	0.003			09:40:21	Yes		

Page 5 Date: 12/4/2014 1:11:23 PM Method: As Hydride 0.0005 0.0005 0.000 0.0081 0.000 0.0063 0.000 09:40:55 -0.004 0.002 Yes 2 0.007 0.003 09:41:29 3 0.0081 Yes Mean: 0.0063 0.0051 0.0002 0.0051 SD: 81.30 81.30 %RSD: 81.30 Autosampler Location: 10 Sequence No.: 13 Date Collected: 12/4/2014 9:42:18 AM Sample ID: LCSWK1412945 Data Type: Original Analyst: ______ Replicate Data: LCSWK1412945 Bkgnd Bkgnd Time Peak Repl SampleConc StndConc BlnkCorr Peak Peak Height Area Height # ug/L ug/L Signal Area Height
1 4.793 4.793 0.232 0.805 0.234
2 4.831 4.831 0.234 0.813 0.236
3 4.802 4.802 0.233 0.817 0.235
Mean: 4.808 4.808 0.233 Stored 09:42:34 0.234 Yes Yes 09:43:08 09:43:42 SD: 0.0197 %RSD: 0.4106 0.0197 0.0010 0.4106 0.41 Autosampler Location: 11 Sequence No.: 14 Date Collected: 12/4/2014 9:44:31 AM Sample ID: K1412945-001 Data Type: Original Analyst: ______ Replicate Data: K1412945-001 Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak # ug/L ug/L Signal Area Height
1 1.617 1.617 0.078 0.278 0.081
2 1.594 1.594 0.077 0.271 0.079
3 1.571 1.571 0.076 0.268 0.078
Mean: 1.594 1.594 0.077 Height Area Height Stored 0.278 0.081 09:44:49 Yes 09:45:23 09:46:01 SD: 0.0233 0.0233 0.0011 %RSD: 1.464 1.464 1.46 _______ Autosampler Location: 12 Sequence No.: 15 Date Collected: 12/4/2014 9:46:55 AM Sample ID: K1412945-001A Data Type: Original Analyst: Replicate Data: K1412945-001A Peak Bkgnd Bkgnd Time Height Area Height Peak Repl SampleConc StndConc BlnkCorr Peak Peak 
 ug/L
 ug/L
 Signal
 Area
 Height

 6.289
 6.289
 0.305
 1.067
 0.307

 6.303
 6.303
 0.305
 1.065
 0.308

 6.312
 6.312
 0.306
 1.084
 0.308

 6.301
 6.301
 0.305
 1.065
 0.308
 Stored # 1.067 0.307 09:47:14 1 2 6.303 3 6.312 Mean: 6.301 09:47:49 Yes 09:48:23 Yes SD: 0.0114 0.0114 0.0006 %RSD: 0.1809 0.1809 0.18 Autosampler Location: 13 Sequence No.: 16 Date Collected: 12/4/2014 9:49:23 AM Sample ID: K1412945-002 Data Type: Original Analyst:

Replic	Replicate Data: K1412945-002										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	1.987	1.987	0.096	0.342	0.099			09:49:41	Yes		
2	1,958	1.958	0.095	0.327	0.097			09:50:15	Yes		
3	1.940	1.940	0.094	0.327	0.096			09:50:49	Yes		
Mean:	1.962	1.962	0.095								
SD:	0.0240	0.0240	0.0012								
%RSD:	1.222	1.222	1.22								

______

Autosampler Location: 14 Sequence No.: 17

Date Collected: 12/4/2014 9:51:40 AM Sample ID: K1412945-003

Analyst:

Replic	ate Data: Kl	.412945-003	3						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.280	2.280	0.110	0.392	0.113			09:51:58	Yes
2	2.330	2.330	0.113	0.391	0.115			09:52:32	Yes
3	2.322	2.322	0.113	0.382	0.115			09:53:06	Yes
Mean:	2.311	2.311	0.112						
SD:	0.0272	0.0272	0.0013						
%RSD:	1.178	1.178	1.18						

Sequence No.: 18

Sample ID: K1412945-004 Date Collected: 12/4/2014 9:53:57 AM

Analyst:

Data Type: Original

Autosampler Location: 15

Data Type: Original

Replic	ate Data: Kl	.412945-004							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.892	2.892	0.140	0.490	0.142			09:54:16	Yes
2	2.906	2.906	0.141	0.492	0.143			09:54:50	Yes
3	2.970	2.970	0.144	0.504	0.146			09:55:24	Yes
Mean:	2.923	2.923	0.142						
SD:	0.0414	0.0414	0.0020						
%RSD:	1.417	1.417	1.42						

_______

Autosampler Location: 16 Sequence No.: 19

Date Collected: 12/4/2014 9:56:15 AM Sample ID: K1412945-005

Data Type: Original Analyst:

Replicate Data: K1412945-005

rebric	ate Data. Mi	412743 003							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.628	1.628	0.079	0.281	0.081			09:56:35	Yes
2	1.583	1.583	0.077	0.268	0.079			09:57:08	Yes
3	1.536	1.536	0.074	0.265	0.077			09:57:42	Yes
Mean:	1.582	1.582	0.077						
SD:	0.0456	0.0456	0.0022						
%RSD:	2.884	2.884	2.88						

Autosampler Location: 17 Sequence No.: 20

Date Collected: 12/4/2014 9:58:34 AM Sample ID: K1412945-006

Data Type: Original Analyst:

_____

Replicate Data: K1412945-006 Peak Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak Stored ug/L ug/L Signal Area Height Area Height # 09:58:50 Yes 3.225 0.548 0.158 1 3.225 0.156 0.551 0.160 0.552 0.158 09:59:24 Yes 3.247 0.157 3.247 2 09:59:57 3.216 Yes

3 3.216 Mean: 3.229 0.156 0.157 3.229 0.157 0.0160 0.0008 0.0160 %RSD: 0.4968

Autosampler Location: 18 Sequence No.: 21

Date Collected: 12/4/2014 10:00:46 AM Sample ID: K1412945-007

Data Type: Original Analyst:

0.4968 0.50

Method	ı: As Hyarlae				rage	<i>(</i>		Date: IZ/	4/2014 1:11:20 1
Replic	ate Data: Kl	412945-007			r new some seek some pen men men some	THE REAL PROPERTY AND THE WAY		- 144 40 44 44 50 40 40 50 50 50 50 50 50	
Repl # 1 2 3 Mean: SD: %RSD:	SampleConc ug/L 0.0357 0.0301 -0.0039 0.0206 0.0214	StndConc ug/L	BlnkCorr Signal	Peak Area 0.009 0.018 -0.003	Peak Height 0.004 0.004 0.002	Bkgnd Area	Bkgnd Height	Time  10:01:02 10:01:36 10:02:09	Peak Stored Yes Yes Yes
Sample Analys	ace No.: 22 e ID: CCV et: cate Data: CC				Date			14 10:02:58	
Repl	SampleConc		BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.119	7.119	0.345					10:03:16	Yes
2	7.114	7.114	0.345	1.210	0.347			10:03:50	Yes
3	7.151	7.151	0.347	1.207	0.349			10:04:23	Yes
Mean:	7.128	7.128	0.345						
SD:	0.0200	0.0200	0.0010						
%RSD:		0.2799	0.28						
QC	value within	limits fo	r As 193.7	) Recove	ery = 95.	0.4%			
All an	nalyte(s) pas	sed QC.							

Sequence No.: 23

0.0189

%RSD: 0.6137

SD:

Autosampler Location: 1

Date Collected: 12/4/2014 10:05:14 AM Sample ID: CCB

Data Type: Original Analyst:

Replicate Data: CCB Time

Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd # ug/L signal Area Height Area Height 1 0.1003 0.1003 0.005 0.009 0.007 Stored 10:05:30 Yes 10:06:04 Yes 0.015 0.004 0.0467 0.0467 0.002 10:06:37 Yes 0.0273 0.001 0.009 0.004 0.0273 Mean: 0.0581 0.0581 SD: 0.0378 0.0378 %RSD: 65.13 65.13 0.003 0.0018

65.13 QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC.

Autosampler Location: 19 Sequence No.: 24

Date Collected: 12/4/2014 10:07:26 AM Sample ID: K1412945-008

Data Type: Original Analyst:

Replicate Data: K1412945-008 Peak Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak 
 ug/L
 ug/L
 Signal
 Area
 Height
 Area

 3.079
 3.079
 0.149
 0.530
 0.151

 3.073
 3.073
 0.149
 0.520
 0.151

 3.109
 3.109
 0.151
 0.533
 0.153
 Stored Height # 10:07:42 Yes 1 3.073 10:08:16 Yes 2 10:08:50 3 Mean: 3.087 0.150 3.087

Autosampler Location: 20 Sequence No.: 25

Date Collected: 12/4/2014 10:09:38 AM Sample ID: K1412945-001DISS

Data Type: Original Analyst:

0.0189 0.0009

0.6137 0.61

eplic:									
_	ate Data: Kl	412945-001	DISS						
epl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	-0.2665	-0.2665	-0.013	-0.664	-0.011			10:09:55	Yes
2	-0.0287	-0.0287		-0.050	0.001			10:10:29	Yes
3	-0.1965	-0.1965	-0.010	-0.191				10:11:02	Yes
-		-0.1963	-0.010	-0.101	0.007			10.11.00	100
	inging BOC								
ean:	-0.1639	-0.1639	-0.008						
D:	0.1222	0.1222	0.0059						
RSD:	74.55	74.55	74.55						
Cha	inging BOC								
====	=========	======================================	=========				-======		
	nce No.: 26	- 0000 - 00				ampler Loc		1 14 10:11:51	λΜ
ampıe nalys	iD: K141294 st:	2-0020122				Type: Ori		# # # # # # # # # # # # # # # # # # #	
	ate Data: Kl	412045-003					gar paper major major major major major major major		
epiic epi	SampleConc			Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
 1	1.578	1.578	0.076	0.241			=	10:12:08	Yes
2	1.538	1.538	0.075	0.248	0.077			10:12:42	Yes
3	1.528	1.528	0.074	0.246	0.076			10:13:16	Yes
-				0.210	0.070			10,10.10	100
	1.548	1.548	0.075						
D:	0.0261	0.0261	0.0013						
RSD:	1.688	1.688	1.69						
		_======	:			ampler Lo	======= cation: 2	======================================	
	E ID: K141294	5-003DTSS							AM
ampre nalys		~ ~~~~~~~				Type: Orig			
				~~~~~~					
-	ate Data: Kl				_		_,		.
epl	${\tt SampleConc}$	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
ŧ	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.121	2.121	0.103	0.362	0.105			10:14:23	Yes
2	2.112	2.112	0.102	0.358	0.105			10:14:56	Yes
3	2.204	2.204	0.107	0.369	0.109			10:15:30	Yes
-				0.505	0.105				
	2.146	2.146	0.104						
D:	0.0504	0.0504	0.0024						
RSD:	2.350	2.350	2.35						
-===					.======:	=======================================			A MATER TOTAL STATE OF THE STATE AND STATE
equen	nce No.: 28 > ID: K141294	5-004DISS				ampler Lo Collected		14 10:16:18	3 AM
-					Data '	Type: Orio	ginal		
ample nalys	st:								
ample	st: 						~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		
ample nalys plic	st: cate Data: K1	412945-004	DISS		Peak	Bkand	Bkand	Time	Peak
ample nalys eplic epl	st: cate Data: K1 SampleConc	412945-004 StndConc	DISS BlnkCorr	Peak	Peak	Bkgnd			
ample nalys plic pl	st: cate Data: K1 SampleConc ug/L	412945-004 StndConc ug/L	DISS BlnkCorr Signal	Peak Area	Height	_			Stored
ample nalys eplic epl	st: cate Data: K1 SampleConc ug/L	412945-004 StndConc ug/L	DISS BlnkCorr Signal	Peak Area	Height 0.129	_		10:16:36	Stored Yes
ample nalys eplic epl	st: cate Data: K1 SampleConc ug/L 2.623 2.639	412945-004 StndConc ug/L 2.623 2.639	BlnkCorr Signal 0.127 0.128	Peak Area 0.445 0.439	Height 0.129 0.130	_		10:16:36 10:17:10	Stored Yes Yes
ample nalys eplic epl t	st: cate Data: K1 SampleConc ug/L 2.623 2.639	412945-004 StndConc ug/L 2.623 2.639	BlnkCorr Signal 0.127 0.128	Peak Area 0.445 0.439	Height 0.129 0.130	_		10:16:36	Stored Yes Yes
ample halys eplic pl t	st: cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594	412945-004 stndConc ug/L 2.623 2.639 2.519 2.594	DISS BlnkCorr Signal 0.127 0.128 0.122	Peak Area 0.445 0.439	Height 0.129 0.130	_		10:16:36 10:17:10	Stored Yes Yes
ample nalys plic plic an an an an an an an an an an an an an	st: cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594	412945-004 stndConc ug/L 2.623 2.639 2.519 2.594	DISS BlnkCorr Signal 0.127 0.128 0.122	Peak Area 0.445 0.439	Height 0.129 0.130	_		10:16:36 10:17:10	Stored Yes Yes
ample nalys plicaplicapl and an an an an an an an an an an an an an	cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594 0.0652	412945-004 StndCone ug/L 2.623 2.639 2.519 2.594 0.0652	BlnkCorr Signal 0.127 0.128 0.122 0.126 0.0032	Peak Area 0.445 0.439	Height 0.129 0.130	_		10:16:36 10:17:10	Stored Yes Yes
ample nalys eplic eplic epl d ean:	st: cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594	412945-004 StndCone ug/L 2.623 2.639 2.519 2.594 0.0652	BlnkCorr Signal 0.127 0.128 0.122 0.126 0.0032	Peak Area 0.445 0.439	Height 0.129 0.130	_		10:16:36 10:17:10	Stored Yes Yes
ample nalys eplic epl # 1 2 3 ean: D: RSD:	cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	412945-004 StndCone ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	BlnkCorr Signal 0.127 0.128 0.122 0.126 0.0032 2.51	Peak Area 0.445 0.439 0.411	Height 0.129 0.130 0.124	Area	Height	10:16:36 10:17:10 10:17:43	Stored Yes Yes
ample nalys eplic epl # 1 2 3 ean: D: RSD:	cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	412945-004 StndCone ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	BlnkCorr Signal 0.127 0.128 0.122 0.126 0.0032 2.51	Peak Area 0.445 0.439 0.411	Height 0.129 0.130 0.124	Area	Height	10:16:36 10:17:10 10:17:43	Stored Yes Yes Yes
ample nalys eplic epl # 1 2 3 ean: D: RSD: ==== equen ample	cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	412945-004 StndCone ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	BlnkCorr Signal 0.127 0.128 0.122 0.126 0.0032 2.51	Peak Area 0.445 0.439 0.411	Height 0.129 0.130 0.124 Autos Date	Area ampler Lo	Height cation: 2 12/4/20	10:16:36 10:17:10 10:17:43	Stored Yes Yes Yes
ample nalys eplic epl # 1 2 3 ean: D: RSD:	cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	412945-004 StndCone ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	BlnkCorr Signal 0.127 0.128 0.122 0.126 0.0032 2.51	Peak Area 0.445 0.439 0.411	Height 0.129 0.130 0.124 Autos Date	Area	Height cation: 2 12/4/20	10:16:36 10:17:10 10:17:43	Stored Yes Yes Yes
ample nalys ean: p: RSD: equen ample nalys	cate Data: K1 SampleConc ug/L 2.623 2.639 2.519 2.594 0.0652 2.512	412945-004 StndCone ug/L 2.623 2.639 2.519 2.594 0.0652 2.512 	DISS BlnkCorr Signal 0.127 0.128 0.122 0.126 0.0032 2.51	Peak Area 0.445 0.439 0.411	Height 0.129 0.130 0.124 Autos Date	Area ampler Lo	Height cation: 2 12/4/20	10:16:36 10:17:10 10:17:43	Stored Yes Yes Yes

Date: 12/4/2014 1:11:23 PM Page Method: As Hydride

#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.241	1.241	0.060	0.206	0.062			10:18:51	Yes
2	1.101	1.101	0.053	0.124	0.056			10:19:25	Yes
3	1.143	1.143	0.055	0.189	0.058			10:19:58	Yes
Mean:	1.162	1.162	0.056						
SD:	0.0717	0.0717	0.0035						
%RSD:	6.174	6.174	6.17						

Sequence No.: 30

Autosampler Location: 25 Sample ID: K1412945-006DISS

Analyst:

Date Collected: 12/4/2014 10:20:48 AM

Data Type: Original

Replic	Replicate Data: K1412945-006DISS										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	2.844	2.844	0.138	0.480	0.140			10:21:06	Yes		
2	2.900	2.900	0.141	0.478	0.143			10:21:40	Yes		
3	2.826	2.826	0.137	0.432	0.139			10:22:14	Yes		
Mean:	2.857	2.857	0.138								
SD:	0.0387	0.0387	0.0019								
%RSD:	1.355	1.355	1.36								

Sequence No.: 31

Sample ID: K1412945-007DISS

Analyst:

Autosampler Location: 26 Date Collected: 12/4/2014 10:23:04 AM

Data Type: Original

Replic	cate Data: K1	412945-007	DISS						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1212	0.1212	0.006	0.018	0.008			10:23:22	Yes
2	0.0763	0.0763	0.004	0.003	0.006			10:23:56	Yes
3	0.0611	0.0611	0.003	0.011	0.005			10:24:29	Yes
Mean:	0.0862	0.0862	0.004						
SD:	0.0312	0.0312	0.0015						
%RSD:	36.20	36.20	36.20						

Sequence No.: 32

Sample ID: K1412945-008DISS

Analyst:

Autosampler Location: 27 Date Collected: 12/4/2014 10:25:20 AM

Data Type: Original

Replic	ate Data: Kl	412945-008	DISS						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	3.348	3.348	0.162	0.575	0.164			10:25:38	Yes
2	3.433	3.433	0.166	0.574	0.169			10:26:12	Yes
3	3.414	3.414	0.165	0.588	0.168			10:26:45	Yes
Mean:	3.398	3.398	0.165						
SD:	0.0446	0.0446	0.0022						
%RSD:	1.313	1.313	1.31						

Sequence No.: 33

Sample ID: K1412993-001

Analyst:

Autosampler Location: 28 Date Collected: 12/4/2014 10:27:36 AM

Data Type: Original

Replic	ate Data: Kl	412993-001							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.392	2.392	0.116	0.417	0.118			10:27:54	Yes
2	2.392	2.392	0.116	0.405	0.118			10:28:28	Yes
3	2.426	2.426	0.118	0.413	0.120			10:29:01	Yes
Mean.	2 403	2.403	0.116						

Method: As Hydride

Page 10

0.0010 SD: 0.0198 0.0198 0.82 %RSD: 0.8231 0.8231

Sequence No.: 34

Autosampler Location: 5 Date Collected: 12/4/2014 10:29:52 AM Sample ID: CCV

Analyst:

Data Type: Original

Replic	ate Data: CC	.V							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.093	7.093	0.344	1.196	0.346			10:30:11	Yes
2	7.047	7.047	0.342	1.195	0.344			10:30:44	Yes
3	6.918	6.918	0.335	1.199	0.337			10:31:18	Yes
Mean:	7.019	7.019	0.340						
SD:	0.0909	0.0909	0.0044						
%RSD:	1.294	1.294	1.29						

QC value within limits for As 193.70 Recovery = 93.59%

All analyte(s) passed QC.

Sequence No.: 35 Sample ID: CCB

Analyst:

Autosampler Location: 1 Date Collected: 12/4/2014 10:32:08 AM

Data Type: Original

Data Type: Original

Autosampler Location: 30

Replicate Data: CCB

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored
1	0.0913	0.0913	0.004	0.023	0.007			10:32:24	Yes
2	0.0315	0.0315	0.002	-0.012	0.004			10:32:58	Yes
3	0.0498	0.0498	0.002	0.012	0.005			10:33:32	Yes
Mean:	0.0575	0.0575	0.003						
SD:	0.0307	0.0307	0.0015						
%RSD:	53.32	53.32	53.32						

QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC.

Autosampler Location: 29 Sequence No.: 36

Date Collected: 12/4/2014 10:34:20 AM Sample ID: K1412993-001D

Analyst:

Replicate Data: K1412993-001D

Kebitc	ate Data: AI	412993-001							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
i i	2.315	2.315	0.112	0.400	0.114			10:34:39	Yes
2	2.311	2.311	0.112	0.369	0.114			10:35:13	Yes
3	2.358	2.358	0.114	0.403	0.116			10:35:47	Yes
Mean:	2.328	2.328	0.113						
SD:	0.0260	0.0260	0.0013						
%RSD:	1.116	1.116	1.12						

Sequence No.: 37

Date Collected: 12/4/2014 10:36:37 AM Sample ID: K1412993-001S

Data Type: Original Analyst:

Replicate Data: K1412993-001S

rebric	ace paca. in	.412000 002						1	1
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored
1	2.312	2.312	0.112	0.404	0.114			10:36:57	Yes
2	2.332	2.332	0.113	0.404	0.115			10:37:30	Yes
3	2.356	2.356	0.114	0.398	0.116			10:38:04	Yes
Mean:	2.333	2.333	0.113						
SD:	0.0222	0.0222	0.0011						

%RSD: 0.9520

0.9520 0.95

Sequence No.: 38 Autosampler Location: 31

Sample ID: K1412993-002 Date Collected: 12/4/2014 10:38:55 AM

Analyst: Data Type: Original

Replicate	Data:	K1412993-002
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Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.380	2.380	0.115	0.417	0.118			10:39:14	Yes
2	2.434	2.434	0.118	0.408	0.120			10:39:48	Yes
3	2.364	2.364	0.115	0.395	0.117			10:40:22	Yes
Mean:	2.393	2.393	0.116						
SD:	0.0368	0.0368	0.0018						
&BGD.	1 536	1 536	1 54						

Sequence No.: 39

Sample ID: K1412993-001DISS

Analyst:

Autosampler Location: 32 Date Collected: 12/4/2014 10:41:14 AM

Data Type: Original

Replicate Data: K1412993-001DISS

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.330	2.330	0.113	0.413	0.115			10:41:29	Yes
2	2.354	2.354	0.114	0.403	0.116			10:42:03	Yes
3	2.302	2.302	0.112	0.373	0.114			10:42:37	Yes
Mean:	2.329	2.329	0.113						
SD:	0.0258	0.0258	0.0013						
%RSD:	1.108	1.108	1.11						

Sequence No.: 40

Sample ID: K1412993-001DDISS

Analyst:

Autosampler Location: 33

Date Collected: 12/4/2014 10:43:24 AM

Data Type: Original

Replicate Data: K1412993-001DDISS

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkand	Bkand	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
ï	2.091	2.091	0.101	0.349	0.104		_	10:43:40	Yes
2	2.134	2.134	0.103	0.365	0.106			10:44:14	Yes
3	2.161	2.161	0.105	0.377	0.107			10:44:47	Yes
Mean:	2.129	2.129	0.103						
SD:	0.0357	0.0357	0.0017						
%RSD:	1.679	1.679	1.68						

Sequence No.: 41

Sample ID: K1412993-001SDISS

Analyst:

Autosampler Location: 34

Date Collected: 12/4/2014 10:45:35 AM

Data Type: Original

Replicate Data: K1412993-001SDISS

repric	ace paca. In	.412333 001							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.216	2.216	0.107	0.389	0.110			10:45:51	Yes
2	2.248	2.248	0.109	0.386	0.111			10:46:25	Yes
3	2.214	2.214	0.107	0.386	0.109			10:46:59	Yes
Mean:	2.226	2.226	0.108						
SD:	0.0195	0.0195	0.0009						
%RSD:	0.8746	0.8746	0.87						

Sequence No.: 42

Sample ID: K1412993-002DISS

Autosampler Location: 35
Date Collected: 12/4/2014 10:47:47 AM

Peak

Replicate Data: CCV

Data Type: Original Analyst: Replicate Data: K1412993-002DISS Peak Stored 10:48:03 Yes 10:48:37 Yes 10:49:11 _______ Autosampler Location: 36 Sequence No.: 43 Date Collected: 12/4/2014 10:49:59 AM Sample ID: K1413402-MB Data Type: Original Analyst: ______ Replicate Data: K1413402-MB
 Replicate Data:
 Rt#1502-rs
 BlnkCorr
 Peak
 Peak
 Bkgnd
 Bkgnd
 Time

 #
 ug/L
 ug/L
 Signal
 Area
 Height
 Area
 Height

 1
 0.0232
 0.0232
 0.001
 -0.006
 0.003
 10:50:16

 2
 0.0338
 0.0338
 0.002
 0.011
 0.004
 10:50:50

 3
 -0.0056
 -0.0056
 -0.0001
 -0.002
 0.002
 10:51:23
 Stored 10:50:16 Yes 10:50:50 Yes 10:51:23 Mean:0.01710.01710.001SD:0.02040.02040.0010%RSD:118.9118.9118.88 _______ Autosampler Location: 37 Sequence No.: 44 Date Collected: 12/4/2014 10:52:12 AM Sample ID: LCSWK1413402 Data Type: Original Analyst: _____
 Replicate Data: LCSWK1413402

 Repl
 SampleConc
 StndConc
 BlnkCorr
 Peak
 Peak
 Bkgnd
 Bkgnd
 T

 #
 ug/L
 ug/L
 Signal
 Area
 Height
 Area
 Height

 1
 4.841
 4.841
 0.235
 0.847
 0.237
 1

 2
 4.895
 4.895
 0.237
 0.848
 0.239
 0.241
 1

 Mean:
 4.886
 4.886
 0.237
 0.853
 0.241
 0.241
 0.241
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 0 Replicate Data: LCSWK1413402 Time Peak Stored 10:52:29 Yes 10:53:03 Yes 10:53:37 _______ Autosampler Location: 38 Sequence No.: 45 Sample ID: K1413402-001 Date Collected: 12/4/2014 10:54:26 AM Data Type: Original Analyst: Replicate Data: K1413402-001
 Replicate Data: KL4134U2-UU1

 Repl
 SampleConc
 StndConc
 BlnkCorr
 Peak
 Peak
 Bkgnd
 Bkgnd
 Time

 #
 ug/L
 ug/L
 Signal
 Area
 Height
 Area
 Height

 1
 2.140
 2.140
 0.104
 0.374
 0.106
 Frame
 10:54:43

 2
 2.104
 2.104
 0.102
 0.368
 0.104
 Frame
 10:55:17

 3
 2.119
 2.119
 0.103
 0.362
 0.105
 Frame
 10:55:51

 Mean:
 2.121
 2.121
 0.103
 Frame
 Frame
 Frame
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 10:54:43 Yes 10:55:17 Yes Autosampler Location: 5 Sequence No.: 46 Date Collected: 12/4/2014 10:56:40 AM Sample ID: CCV Data Type: Original Analyst:

52

Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time

#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	7.691	7.691	0.373	1.338	0.375			10:56:58	Yes	
2	7.784	7.784	0.377	1.341	0.379			10:57:33	Yes	
3	7.521	7.521	0.365	1.351	0.367			10:58:06	Yes	
Mean:	7.665	7.665	0.372							
SD:	0.1333	0.1333	0.0065							
%RSD:	1.739	1.739	1.74							
QC	value within	limits fo	or As 193.70	Recove	xy = 102.	20%				
All an	All analyte(s) passed QC.									

Sequence No.: 47 Sample ID: CCB

Analyst:

Autosampler Location: 1 Date Collected: 12/4/2014 10:58:57 AM

Data Type: Original

Replic	ate Data: CC	:B							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1328	0.1328	0.006	0.035	0.009			10:59:13	Yes
2	0.0551	0.0551	0.003	0.006	0.005			10:59:47	Yes
3	0.0381	0.0381	0.002	-0.005	0.004			11:00:21	Yes
Mean:	0.0754	0.0754	0.004						
SD:	0.0505	0.0505	0.0024						
%RSD:	66,99	66.99	66.99						

QC value within limits for As 193.70 Recovery = Not calculated

All analyte(s) passed QC.

_______ Autosampler Location: 39

Sequence No.: 48

%RSD: 1.135

1.135

Date Collected: 12/4/2014 11:01:10 AM Sample ID: K1413402-002

Data Type: Original Analyst:

Replicate Data: K1413402-002 Peak Bkgnd Height Area Bkgnd Bkgnd Time Peak Repl SampleConc StndConc BlnkCorr Peak Stored
 ug/L
 ug/L
 Signal
 Area
 Height

 2.884
 2.884
 0.140
 0.505
 0.142
 Height # 11:01:27 Yes 1 0.137 0.489 0.140 11:02:01 Yes 2.835 2 2.835 11:02:35 Yes 2.897 0.140 0.501 0.143 2.897 3 Mean: 2.872 2.872 0.139 SD: 0.0326 0.0326 0.0016

Autosampler Location: 40 Sequence No.: 49

1.13

Date Collected: 12/4/2014 11:03:25 AM Sample ID: K1413402-002D Data Type: Original Analyst:

Replicate Data: K1413402-002D										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	2.821	2.821	0.137	0.492	0.139			11:03:42	Yes	
2	3.164	3.164	0.153	1.366	0.156			11:04:16	Yes	
3	2.448	2.448	0.119	0.152	0.121			11:04:50	Yes	
Cha	nging BOC									
Mean:	2.811	2.811	0.136							
SD:	0.3582	0.3582	0.0174							
%RSD:	12.74	12.74	12.74							

Autosampler Location: 41 Sequence No.: 50

Date Collected: 12/4/2014 11:05:39 AM Sample ID: K1413402-002S

Data Type: Original Analyst:

Replicate Data: K1413402-002S

Changing BOC

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	3.514	3.514	0.170	0.593	0.172			11:05:57	Yes
2	3.473	3.473	0.168	0.604	0.170			11:06:31	Yes
3	3.464	3.464	0.168	0.600	0.170			11:07:05	Yes
Mean:	3.483	3.483	0.169						
SD:	0.0270	0.0270	0.0013						
%RSD:	0.7737	0.7737	0.77						

Sequence No.: 51

Autosampler Location: 42 Sample ID: K1413402-003

Analyst:

Date Collected: 12/4/2014 11:07:55 AM

Data Type: Original

Replicate Data: K1413402-003										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	2.109	2.109	0.102	0.346	0.104			11:08:13	Yes	
2	2.127	2.127	0.103	0.365	0.105			11:08:46	Yes	
3	2.122	2.122	0.103	0.366	0.105			11:09:20	Yes	
Mean:	2.119	2.119	0.103							
SD:	0.0092	0.0092	0.0004							
%RSD:	0.4347	0.4347	0.43							

Sequence No.: 52

Date Collected: 12/4/2014 11:10:10 AM Sample ID: K1413402-004

Analyst:

Data Type: Original

Autosampler Location: 43

Autosampler Location: 44

Replic	cate Data: K1	413402-004							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1334	0.1334	0.006	0.028	0.009			11:10:29	Yes
2	0.1109	0.1109	0.005	0.019	0.008			11:11:02	Yes
3	0.1011	0.1011	0.005	0.014	0.007			11:11:36	Yes
Mean:	0.1151	0.1151	0.006						
SD:	0.0166	0.0166	0.0008						
%RSD.	14 38	14.38	14.38						

Sequence No.: 53

Date Collected: 12/4/2014 11:12:26 AM Sample ID: K1413402-004A

Analyst:

Data Type: Original

Replicate Data: K1413402-004A SampleConc StndConc BlnkCorr Peak Peak Bkond Bkond Time

керт	SampleConc	Sthatone	PIUKCOLL	reak	reak	BRYIIG	Dagiiu	T T110C	r car
#	uq/L	uq/L	Signal	Area	Height	Area	Height		Stored
1	4.856	4.856	0.235	0.841	0.238			11:12:44	Yes
2	4.808	4.808	0.233	0.841	0.235			11:13:18	Yes
3	4.841	4.841	0.235	0.854	0.237			11:13:53	Yes
Mean:	4.835	4.835	0.234						
SD:	0.0245	0.0245	0.0012						
%RSD:	0.5072	0.5072	0.51						

Sequence No.: 54 Autosampler Location: 45

Date Collected: 12/4/2014 11:14:43 AM Sample ID: K1413402-005

Data Type: Original Analyst:

_____ Replicate Data: K1413402-005

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.694	1.694	0.082	0.308	0.084			11:15:02	Yes
2	1.668	1.668	0.081	0.295	0.083			11:15:36	Yes
3	1.641	1.641	0.080	0.294	0.082			11:16:10	Yes

Mean:	1.668	1.668	0.081
SD:	0.0266	0.0266	0.0013
%RSD:	1.596	1.596	1.60

Sequence No.: 55

Sample ID: K1413402-006 Date Collected: 12/4/2014 11:17:00 AM

Analyst:

Data Type: Original

Autosampler Location: 46

Replicate Data: K1413402-006

1000110	acc paca. In	. 110101 000							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored
1	1.882	1.882	0.091	0.331	0.093			11:17:19	Yes
2	1.926	1.926	0.093	0.339	0.096			11:17:53	Yes
3	1.861	1.861	0.090	0.332	0.092			11:18:27	Yes
Mean:	1.889	1.889	0.092						
SD:	0.0332	0.0332	0.0016						
%RSD:	1.756	1.756	1.76						

Sequence No.: 56

Sample ID: K1413402-007

Analyst:

Autosampler Location: 47 Date Collected: 12/4/2014 11:19:18 AM Data Type: Original

Replicate Data: K1413402-007

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.982	1.982	0.096	0.337	0.098			11:19:37	Yes
2	1.980	1.980	0.096	0.350	0.098			11:20:11	Yes
3	1.926	1.926	0.093	0.347	0.096			11:20:44	Yes
Mean:	1.962	1.962	0.095						
SD:	0.0318	0.0318	0.0015						
SPSD.	1 621	1.621	1.62						

Sequence No.: 57

Autosampler Location: 48

Date Collected: 12/4/2014 11:21:36 AM Sample ID: K1413402-008 Data Type: Original

Analyst:

0.7278 0.73

Replicate Data: K1413402-008

rapare	acc Daca. Im		•						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.728	2.728	0.132	0.471	0.134			11:21:51	Yes
2	2.690	2.690	0.130	0.467	0.133			11:22:25	Yes
3	2.717	2.717	0.132	0.481	0.134			11:22:59	Yes
Mean:	2.711	2.711	0.131						
en.	0 0197	0 0197	0.0010						

Autosampler Location: 5 Sequence No.: 58

Date Collected: 12/4/2014 11:23:46 AM Sample ID: CCV

Data Type: Original Analyst:

Replicate Data: CCV

%RSD: 0.7278

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.536	7.536	0.365	1.351	0.367			11:24:04	Yes
2	8.075	8.075	0.391	1.615	0.394			11:24:38	Yes
3	7.569	7.569	0.367	1.268	0.369			11:25:12	Yes
Mean:	7.727	7.727	0.374						

SD: 0.3022 0.3022 0.0146 3.91 %RSD: 3.911 3.911

QC value within limits for As 193.70 Recovery = 103.02%

All analyte(s) passed QC.

Sequence No.: 59 Sample ID: CCB

Analyst:

Autosampler Location: 1

Date Collected: 12/4/2014 11:26:02 AM

Data Type: Original

Replic	Replicate Data: CCB											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	uq/L	uq/L	Signal	Area	Height	Area	Height		Stored			
1	0.1229	0.1229	0.006	0.025	0.008			11:26:18	Yes			
2	0.0821	0.0821	0.004	-0.007	0.006			11:26:52	Yes			
3	0.0373	0.0373	0.002	-0.004	0.004			11:27:26	Yes			
Mean:	0.0808	0.0808	0.004									
SD:	0.0428	0.0428	0.0021									
용RSD:	52.98	52.98	52.98									
0.7	The state of the s	م عد سدند د	~ 7~ 102 7	n Bogotto	ru - Not	calculate	d					

QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC.

Sequence No.: 60

Sample ID: K1413402-009

Analyst:

Autosampler Location: 49

Date Collected: 12/4/2014 11:28:14 AM

Data Type: Original

.

Replicate Data: K1413402-009

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ucr/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1419	0.1419	0.007	0.084	0.009			11:28:30	Yes
2	0.1363	0.1363	0.007	0.028	0.009			11:29:04	Yes
3	0.1113	0.1113	0.005	0.026	0.008			11:29:38	Yes
Mean:	0.1298	0.1298	0.006						
SD:	0.0163	0.0163	0.0008						
&RSD.	12 53	12.53	12.53						

Sequence No.: 61

Sample ID: K1413402-010

Analyst:

Autosampler Location: 50

Date Collected: 12/4/2014 11:30:26 AM

Data Type: Original

Replicate Data: K1413402-010

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.036	2.036	0.099	0.360	0.101			11:30:42	Yes
2	2.026	2.026	0.098	0.356	0.100			11:31:15	Yes
3	1.978	1.978	0.096	0.357	0.098			11:31:49	Yes
Mean:	2.013	2.013	0.098						
SD:	0.0312	0.0312	0.0015						
%RSD:	1.549	1.549	1.55						

Sequence No.: 62

Analyst:

Sample ID: K1413402-001DISS

Autosampler Location: 51 Date Collected: 12/4/2014 11:32:37 AM

Data Type: Original

Replicate Data: K1413402-001DISS

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ua/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2,429	2.429	0.118	0.438	0.120			11:32:54	Yes
2	2.462	2.462	0.119	0.433	0.121			11:33:27	Yes
3	2.402	2.402	0.116	0.436	0.119			11:34:01	Yes
Manne	2 421	2 //37	0 118						

2.431 Mean: 2.431 0.118 0.0301 0.0015 SD: 0.0301 1.237 %RSD: 1.237

Sequence No.: 63

Autosampler Location: 52

Date Collected: 12/4/2014 11:34:50 AM Sample ID: K1413402-002DISS

Analyst:

Data Type: Original

Replicate Data: K1413402-002DISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	2.622	2.622	0.127	0.476	0.129			11:35:06	Yes		
2	2.551	2.551	0.124	0.465	0.126			11:35:40	Yes		
3	2.679	2.679	0.130	0.469	0.132			11:36:14	Yes		
Mean:	2.617	2.617	0.127								
SD:	0.0642	0.0642	0.0031								
%RSD:	2.454	2.454	2.45								

Sequence No.: 64

Autosampler Location: 53 Sample ID: K1413402-002DDISS

Analyst:

Date Collected: 12/4/2014 11:37:03 AM

Data Type: Original

Replic	eplicate Data: K1413402-002DDISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak			
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored			
1	2.803	2.803	0.136	0.454	0.138			11:37:19	Yes			
2	2.714	2.714	0.132	0.489	0.134			11:37:53	Yes			
3	2.741	2.741	0.133	0.481	0.135			11:38:26	Yes			
Mean:	2.752	2.752	0.133									
SD:	0.0455	0.0455	0.0022									
%RSD:	1.653	1.653	1.65									

Sequence No.: 65

Sample ID: K1413402-002SDISS

Analyst:

Autosampler Location: 54

Date Collected: 12/4/2014 11:39:15 AM

Data Type: Original

Replicate Data: K1413402-002SDISS											
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	3.499	3.499	0.170	0.606	0.172			11:39:32	Yes		
2	3.391	3.391	0.164	0.599	0.167			11:40:06	Yes		
3	3.431	3.431	0.166	0.605	0.168			11:40:40	Yes		
Mean:	3.440	3.440	0.167								
SD:	0.0548	0.0548	0.0027								
%RSD:	1.592	1.592	1.59								

Sequence No.: 66

Sample ID: K1413402-003DISS

Analyst:

Autosampler Location: 55

Date Collected: 12/4/2014 11:41:29 AM

Data Type: Original

Replic	Replicate Data: K1413402-003DISS										
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored		
1	2.458	2.458	0.119	0.435	0.121			11:41:46	Yes		
2	2.603	2.603	0.126	0.447	0.128			11:42:20	Yes		
3	2.490	2.490	0.121	0.450	0.123			11:42:54	Yes		
Mean:	2.517	2.517	0.122								
SD:	0.0763	0.0763	0.0037								
%RSD:	3.033	3.033	3.03								

Sequence No.: 67

Sample ID: K1413402-004DISS

Analyst:

Autosampler Location: 56 Date Collected: 12/4/2014 11:43:43 AM

Data Type: Original

Replicate Data: K1413402-004DISS

Method	l: As Hydride	ŧ			Page 1	8		Date: 12/	4/2014 1:11:23
Repl # 1 2 3 Mean: SD: %RSD:	SampleConc ug/L 0.0977 0.0908 0.0932 0.0939 0.0035		BlnkCorr signal 0.005 0.004 0.005 0.005 0.0002 3.75	Peak Area 0.023 0.019 0.021	Peak Height 0.007 0.007	Bkgnd Area	Bkgnd Height	Time 11:44:01 11:44:34 11:45:08	Peak Stored Yes Yes Yes
Sequer	nce No.: 68 in: K141340 it:			======	Autos Date	ampler Lo	cation: 5 1: 12/4/20	7 14 11:45:57	
Repl # 1 2 3	1.396 1.365 1.361 0.0362	stndConc ug/L 1.323 1.396 1.365		Peak Area 0.239 0.243 0.237	Height	Bkgnd Area	Bkgnd Height	Time 11:46:15 11:46:49 11:47:22	Peak Stored Yes Yes Yes
-	nce No.: 69 e ID: K141340 et:	======================================		ain ain ain ain ain ain ain ain ain ain	Date			8 14 11:48:12	? AM
Repl # 1 2 3	2.020 0.0438			Peak Area 0.368 0.368 0.369	Peak Height 0.100 0.098 0.102	Bkgnd Area	Bkgnd Height	Time 11:48:30 11:49:04 11:49:37	Peak Stored Yes Yes Yes
Sequer	nce No.: 70 E ID: CCV	# = = = = =		# # # = = = # :	Autos Date	ampler Lo	cation: 5 .: 12/4/20		3 AM
Replication Replic	cate Data: CC SampleConc ug/L 7.678		BlnkCorr Signal 0.372	Peak Area 1.368	Peak Height	Bkgnd Area	Bkgnd Height	Time 11:50:46	Peak Stored Yes

Replic	Replicate Data: CCV											
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored			
#	J.	-	_		_	AICa	11019110	11:50:46	Yes			
1	7.678	7.678	0.372	1.368	0.374				162			
2	7.736	7.736	0.375	1.447	0.377			11:51:19	Yes			
Cha	nging BOC											
3	7.616	7.616	0.369	1.349	0.371			11:51:53	Yes			
Mean:	7.677	7.677	0.372									
SD:	0.0603	0.0603	0.0029									
%RSD:	0.7857	0.7857	0.79									
Cha	nging BOC											

QC value within limits for As 193.70 Recovery = 102.36%

All analyte(s) passed QC.

________ Autosampler Location: 1

Sequence No.: 71 Sample ID: CCB

Date Collected: 12/4/2014 11:52:44 AM

Analyst:

Data Type: Original

Replicate Data: CCB

Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak

Method: As Hydride Page 19 Date: 12/4/2014 1:11:23 PM

#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1270	0.1270	0.006	0.010	0.008			11:53:00	Yes
2	0.0590	0.0590	0.003	-0.019	0.005			11:53:34	Yes
3	0.0501	0.0501	0.002	0.010	0.005			11:54:07	Yes
Mean:	0.0787	0.0787	0.004						
SD:	0.0421	0.0421	0.0020						
%RSD:	53.49	53.49	53.49						
oc.	value within	limits	for As 193.70	Recove	ry = Not	calculate	d		

All analyte(s) passed QC.

Sequence No.: 72

Autosampler Location: 59

Sample ID: K1413402-007DISS Date Collected: 12/4/2014 11:54:56 AM

Analyst: Data Type: Original

D--1:---- D--- V1/13/02-007DTCC

Replic	ate Data: Kl	413402-007	DISS						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	uq/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.533	1.533	0.074	0.270	0.076			11:55:14	Yes
2	1.574	1.574	0.076	0.255	0.078			11:55:48	Yes
3	1.547	1.547	0.075	0.281	0.077			11:56:22	Yes
Mean:	1.552	1.552	0.075						
SD:	0.0209	0.0209	0.0010						
%RSD:	1.345	1.345	1.35						

Sequence No.: 73 Autosampler Location: 60

Sample ID: K1413402-008DISS Date Collected: 12/4/2014 11:57:13 AM

Analyst: Data Type: Original

.

Replic	ate Data: Kl	413402-008	DISS						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	2.234	2.234	0.108	0.415	0.110			11:57:31	Yes
2	2.321	2.321	0.112	0.408	0.115			11:58:05	Yes
3	2.458	2.458	0.119	0.419	0.121			11:58:39	Yes
Mean:	2.338	2.338	0.113						
SD:	0.1130	0.1130	0.0055						
%RSD:	4.834	4.834	4.83						

Sequence No.: 74 Autosampler Location: 61

Sample ID: K1413402-009DISS Date Collected: 12/4/2014 11:59:29 AM

Analyst: Data Type: Original

Replic	cate Data: K1	413402-009	DISS						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.1384	0.1384	0.007	0.027	0.009			11:59:48	Yes
2	0.1190	0.1190	0.006	0.021	0.008			12:00:21	Yes
3	-0.0040	-0.0040	-0.000	-0.072	0.002			12:00:55	Yes
Mean:	0.0844	0.0844	0.004						
SD:	0.0772	0.0772	0.0037						
&RSD:	91.45	91.45	91.45						

Sequence No.: 75 Autosampler Location: 62

Sample ID: K1413402-010DISS Date Collected: 12/4/2014 12:01:46 PM

Analyst: Data Type: Original

Replic	cate Data: K1	413402-010	DISS						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	1.531	1.531	0.074	0.275	0.076			12:02:05	Yes
2	1.544	1.544	0.075	0.241	0.077			12:02:39	Yes

Date: 12/4/2014 1:11:23 PM Page 20 Method: As Hydride 1.566 1.566 0.076 12:03:13 0.237 0.078 Yes 3 0.00 Mean: 1.547 0.075 1.547 SD: 0.0180 0.0180 0.0009 1.166 %RSD: 1.166 _______ Autosampler Location: 63 Sequence No.: 76

Date Collected: 12/4/2014 12:04:04 PM

Data Type: Original Analyst:

Replic	ate Data: Kl	413380-MB							
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.0243	0.0243	0.001	0.013	0.003			12:04:19	Yes
2	0.0094	0.0094	0.000	-0.020	0.003			12:04:53	Yes
3	-0.0007	-0.0007	-0.000	-0.018	0.002			12:05:26	Yes
Mean:	0.0110	0.0110	0.001						
SD:	0.0126	0.0126	0.0006						
%RSD:	114.3	114.3	114.26						

Autosampler Location: 64 Sequence No.: 77

Date Collected: 12/4/2014 12:06:14 PM Sample ID: LCSWK1413380

Analyst:

Sample ID: K1413380-MB

Data Type: Original

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	4.927	4.927	0.239	0.858	0.241			12:06:29	Yes
2	4.799	4.799	0.233	0.868	0.235			12:07:04	Yes
3	5.039	5.039	0.244	0.875	0.246			12:07:37	Yes
Mean:	4.922	4.922	0.239						
SD:	0.1204	0.1204	0.0058						
용RSD:	2.446	2.446	2.45						

Autosampler Location: 65 Sequence No.: 78

Sample ID: K1413380-001 Date Collected: 12/4/2014 12:08:25 PM Data Type: Original

Analyst:

Replicate Data: K1413380-001 Peak Time Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd ug/L Signal Area Height Area Height 0.2180 0.011 0.040 0.013 0.2010 0.010 0.037 0.012 0.1586 0.008 0.031 0.010 Stored # ug/L 12:08:41 0.2180 Yes 1 0.2010 12:09:15 Yes 2 12:09:48 0.1586 0.1925 0.009 Mean: 0.1925 0.0306 0.0306 0.0015 SD: %RSD: 15.89 15.89 15.89

Sequence No.: 79 Autosampler Location: 66

Date Collected: 12/4/2014 12:10:37 PM Sample ID: K1413380-002

Data Type: Original Analyst:

Replicate Data: K1413380-002 Peak Bkgnd Bkgnd Height Area Height Time Repl SampleConc StndConc BlnkCorr Peak Peak Peak ug/L ug/L Signal 1.776 1.776 0.086 Stored Height # Area 0.318 0.088 1.776 12:10:53 1.776 1 1.752 0.085 0.310 0.087 12:11:26 Yes 1.752 12:12:00 Yes 1.762 1.762 0.085 0.325 0.088 3 Mean: 1.764 1.764 0.085 SD: 0.0120 0.0120 0.0006 %RSD: 0.6812 0.6812 0.68

Sequence No.: 80

Sample ID: K1413380-003

Analyst:

Autosampler Location: 67

Date Collected: 12/4/2014 12:12:48 PM

Data Type: Original

Replic	ate Data: Kl				_			1	
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Sigmal	Area	Height	Area	Height		Stored
1	0.4854	0.4854	0.024	0.093	0.026			12:13:04	Yes
2	0.6730	0.6730	0.033	0.215	0.035			12:13:38	Yes
Cha	inging BOC								
3	0.4661	0.4661	0.023	0.071	0.025			12:14:12	Yes
Mean:	0.5415	0.5415	0.026						
SD:	0.1143	0.1143	0.0055						
%RSD:	21.11	21.11	21.11				*		
Cha	inging BOC								

Sequence No.: 81

Sample ID: K1413380-003A

Analyst:

Autosampler Location: 68

Date Collected: 12/4/2014 12:15:00 PM

Data Type: Original

Pomligate Data: K1/13380-003b

Repli	.cate Data: Kl	.413380-003	SA.						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	5.166	5.166	0.250	0.913	0.253			12:15:17	Yes
2	5.292	5.292	0.256	0.906	0.259			12:15:51	Yes
3	5.122	5.122	0.248	0.855	0.250			12:16:27	Yes
Mean:	5.193	5.193	0.252						
SD:	0.0883	0.0883	0.0043						

Sequence No.: 82

Sample ID: CCV Analyst:

%RSD: 1.700

Autosampler Location: 5

Date Collected: 12/4/2014 12:17:15 PM

Data Type: Original

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	7.646	7.646	0.371	1.372	0.373			12:17:33	Yes
2	7.706	7.706	0.373	1.371	0.376			12:18:07	Yes
3	7.597	7.597	0.368	1.365	0.370			12:18:41	Yes
Mean:	7.650	7.650	0.371						
SD:	0.0542	0.0542	0.0026						
%RSD:	0.7086	0.7086	0.71						

QC value within limits for AS 193.70 Recovery 101.996

1.70

1.700

All analyte(s) passed QC.

Sequence No.: 83

Autosampler Location: 1

Sample ID: CCB

Date Collected: 12/4/2014 12:19:32 PM

Analyst: Data Type: Original

______ Replicate Data: CCB Bkgnd Bkgnd Time Peak Repl SampleConc StndConc BlnkCorr Peak Peak
 ug/L
 ug/L
 Signal
 Area

 0.1469
 0.1469
 0.007
 0.023

 0.0955
 0.0955
 0.005
 0.019
 Height Area Height Stored # 0.023 0.009 12:19:48 Yes 1 0.019 0.007 12:20:22 Yes 0.0436 0.002 12:20:56 Yes 0.0436 0.015 0.004 3 0.0954 0.005 Mean: 0.0954 SD: 0.0517 0.0025 54.17 54.17 %RSD: 54.17

QC value within limits for As 193.70 Recovery = Not calculated

All analyte(s) passed QC.

Peak

Yes

Yes

Sequence No.: 84

Sample ID: K1413380-003D

Analyst:

Autosampler Location: 69

Date Collected: 12/4/2014 12:21:44 PM

Data Type: Original

Replic	ate Data: Kl	413380-003	D						
Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored
1	0.4783	0.4783	0.023	0.094	0.025			12:22:01	Yes
2	0.4613	0.4613	0.022	0.075	0.025			12:22:35	Yes
3	0.4781	0.4781	0.023	0.094	0.025			12:23:09	Yes
Mean:	0.4725	0.4725	0.023						
SD:	0.0097	0.0097	0.0005						

Sequence No.: 85

%RSD: 2.062

Sample ID: K1413380-003S

Analyst:

Autosampler Location: 70

Date Collected: 12/4/2014 12:23:57 PM

Data Type: Original

Replicate Data: K1413380-003S Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time

0.7744 0.77

2.062

2.06

#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored
1	8.462	8.462	0.410	1.502	0.412		-	12:24:14	Yes
2	8.545	8.545	0.414	1.841	0.416			12:24:48	Yes
3	8.592	8.592	0.416	1.511	0.419			12:25:22	Yes
Mean:	8.533	8.533	0.414						
SD:	0.0661	0.0661	0.0032						

Sequence No.: 86

%RSD: 0.7744

Sample ID: K1413380-004

Analyst:

Autosampler Location: 71

Date Collected: 12/4/2014 12:26:11 PM

Data Type: Original

Replicate Data: K1413380-004 Time Peak Bkgnd Bkgnd Repl SampleConc StndConc BlnkCorr Peak Peak
 ug/L
 signal
 Area
 Height
 Area
 Height

 2.249
 2.249
 0.109
 0.392
 0.111

 2.138
 2.138
 0.104
 0.383
 0.106

 2.159
 2.159
 0.105
 0.393
 0.107

 2.182
 2.182
 0.106
 Stored # Yes 12:26:28 1

2.138 2 3 Mean: 2.182 %RSD: 2.697 2.70 2.697

Sequence No.: 87

Sample ID: K1413380-005

Analyst:

Autosampler Location: 72

Date Collected: 12/4/2014 12:28:25 PM

12:27:02

12:27:35

Data Type: Original

Replicate Data: K1413380-005

Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak
 ug/L
 ug/L
 Signal
 Area
 Height
 Area
 Height

 2.200
 2.200
 0.107
 0.383
 0.109

 2.113
 2.113
 0.102
 0.381
 0.105

 2.148
 2.148
 0.104
 0.389
 0.106

 2.154
 2.154
 0.104
 Stored 2.200 2.113 3 2.148 2.148 Mean: 2.154 SD: 0.000 12:28:42 Yes 12:29:16 Yes 12:29:50

0.0437 0.0021 %RSD: 2.030 2.030 2.03

Autosampler Location: 73

Date Collected: 12/4/2014 12:30:39 PM

Data Type: Original

Sequence No.: 88

Sample ID: K1413380-006

Analyst:

Replic	ate Data: Kl	413380-006								
Repl	SampleConc		BlnkCorr	Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	0.1112	0.1112	0.005	0.052	0.008		_	12:30:57	Yes	
2	0.0110	0.0110	0.001	-0.002				12:31:30	Yes	
3	0.0110	0.0110	0.001	0.002	0.003			12:32:04	Yes	
-				0.002	0.003			+c. 2c. V7	100	
	0.0470	0.0470	0.002							
SD:	0.0557	0.0557	0.0027							
%RSD:	118.7	118.7	118.70							
		=======================================		======			======= cation: 7		Approximate the control of the contr	
	ce No.: 89 : ID: K141338	0-007						14 12:32:54	PM	
Analys					Data !	Type: Ori	ginal			
	ate Data: Kl SampleConc			Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
Repl	_					-		1,1110	Stored	
#	ug/L	ug/L	Signal	Area	Height	Area	Height	10.33.10		
1	1.957	1.957	0.095	0.357				12:33:12	Yes	
2	2.003	2.003	0.097	0.358	0.099			12:33:46	Yes	
•3	1.971	1.971	0.096	0.357	0.098			12:34:19	Yes	
Mean:		1.977	0.096							
SD:	0.0236	0.0236	0.0011							
%RSD:	1.193	1.193	1.19							
				=======						
_	ce No.: 90	O 0015744				-	cation: 7	'5 14 12:35:09	PM	
_	ID: K141338	O-OOTDISS						· + + +	4°4	
Analys	it:				Data '	Type: Ori	dingi			
	ate Data: Kl	413380-001	DISS	7 0 7	D = =1	701	Dle con d	Mi mo	Peak	
Repl	SampleConc				Peak	Bkgnd	Bkgnd	Time		
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	0.1440	0.1440	0.007	0.038	0.009			12:35:28	Yes	
2	0.1236	0.1236	0.006	0.023	0.008			12:36:01	Yes	
3	0.1230	0.1330	0.006	0.035	0.009			12:36:35	Yes	
		0.1335	0.006							
Mean:										
SD:	0.0102	0.0102	0.0005							
%RSD:	7.650	7.650	7.65							
	.=== xx= =====		=======================================						: = = = = = = = = = = = = = = = = = = =	
	nce No.: 91	0.000					cation: 7	'6)14 12:37:25	DM	
Sample Analys	ID: K141338	U-UUZDISS				Collected Type: Ori		14 14.51.20	T.1.1	
una TÀ2					Data	-150. 011	ə -			
 Replic	ate Data: Kl	413380-002	DISS							
Repl	SampleConc			Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	ug/L	Signal	Area	Height	Area	Height		Stored	
1	1.616	1.616	0.078	0.292	-			12:37:44	Yes	
				0.293	0.080			12:38:18	Yes	
2	1.614	1.614	0.078							
3	1.595	1.595	0.077	0.289	0.080			12:38:51	Yes	
Mean:	1.608	1.608	0.078							
SD:	0.0112	0.0112	0.0005							
%RSD:		0.6985	0.70							
									. 20 10 10 10 10 10 10 10 10 10 10 10 10 10	
	nce No.: 92						cation: 7			
	D: K141338	0-003DISS		Date Collected: 12/4/2014 12:39:42 PM						
Analys						Type: Ori				
			=							
 Replic	cate Data: Kl		BDISS						_ ,	
Repl	SampleConc			Peak	Peak	Bkgnd	Bkgnd	Time	Peak	
#	ug/L	uq/L	Signal	Area	Height	Area	Height		Stored	

Signal

ug/L

ug/L

#

Page 24 Date: 12/4/2014 1:11:23 PM Method: As Hydride 0.4429 0.021 0.082 0.024 12:40:01 0.4429 1 0.4429 0.4429 0.021 0.082 0.024 2 0.4111 0.4111 0.020 0.089 0.022 3 0.4463 0.4463 0.022 0.081 0.024 Mean: 0.4334 0.4334 0.021 SD: 0.0194 0.0194 0.0009 %RSD: 4.485 4.49 12:40:35 Yes 12:41:09 Yes _______ Autosampler Location: 78 Sequence No.: 93 Sample ID: K1413380-003DDISS Date Collected: 12/4/2014 12:42:00 PM Data Type: Original Analyst: Replicate Data: K1413380-003DDISS
 Replicate Data: K1413380-003DDISS

 Repl
 SampleConc
 StndConc
 BlnkCorr
 Peak
 Peak
 Bkgnd
 Bkgnd
 Time
 Peak

 #
 ug/L
 ug/L
 Signal
 Area
 Height
 Area
 Height
 Store

 1
 0.3700
 0.3700
 0.018
 0.044
 0.020
 12:42:15
 Yes

 2
 0.3791
 0.3791
 0.018
 0.066
 0.021
 12:42:49
 Yes

 3
 0.4082
 0.4082
 0.020
 0.067
 0.022
 12:43:23
 Yes

 Mean:
 0.3858
 0.3858
 0.019
 No.020
 12:43:23
 Yes

 \$BSD:
 0.0200
 0.0200
 0.0010
 No.022
 No.022
 No.022
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.024
 No.0 Stored 12:42:15 Yes Yes Yes Autosampler Location: 5 Sequence No.: 94 Date Collected: 12/4/2014 12:44:10 PM Sample ID: CCV Data Type: Original Analyst: _____ Replicate Data: CCV Bkgnd Bkgnd Time
 Replicate Data: CUV

 Repl
 SampleConc
 StndConc
 BlnkCorr
 Peak
 Peak
 Bkgnd
 Bkgnd

 #
 ug/L
 signal
 Area
 Height
 Area
 Height

 1
 7.801
 7.801
 0.378
 1.378
 0.380

 2
 7.713
 7.713
 0.374
 1.381
 0.376

 3
 7.754
 7.754
 0.376
 1.409
 0.378

 Mean:
 7.756
 7.756
 0.376

 SD:
 0.0439
 0.0439
 0.0021

 %RSD:
 0.5664
 0.5664
 0.5664
 Peak Stored 12:44:28 Yes 12:45:02 12:45:36 Yes Yes QC value within limits for As 193.70 Recovery = 103.41% All analyte(s) passed QC. Autosampler Location: 1 Sequence No.: 95 Date Collected: 12/4/2014 12:46:35 PM Sample ID: CCB Data Type: Original Analyst: Replicate Data: CCB Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time

wg/L wg/L Signal Area Height Area Height Peak # ug/L ug/L Signal Area Height Area Height
1 0.1557 0.1557 0.008 0.035 0.010
2 0.0996 0.0996 0.005 0.013 0.007
3 0.0524 0.0524 0.003 0.011 0.005

Mean: 0.1026 0.1026 0.005
SD: 0.0517 0.0517 0.0025

%RSD: 50.42 50.42 Stored 12:47:25 12:47:59 QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC. Autosampler Location: 79 Sequence No.: 96 Date Collected: 12/4/2014 12:48:48 PM Sample ID: K1413380-003SDISS Data Type: Original Analvst:

Replicate Data: K1413380-003SDISS
Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak

Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak # ug/L ug/L Signal Area Height Area Height 1 7.897 7.897 0.383 1.431 0.385 12:49:04 Yes

Page 25 Date: 12/4/2014 1:11:23 PM Method: As Hydride 2 8.440 8.440 0.409 1.456 0.411 3 8.173 8.173 0.396 1.536 0.398 Mean: 8.170 8.170 0.396 12:49:38 Yes 12:50:12 Yes 0.2714 0.2714 0.0132 SD: %RSD: 3.322 3.322 3.32 ______ Sequence No.: 97 Autosampler Location: 80 Date Collected: 12/4/2014 12:51:00 PM Sample ID: K1413380-004DISS Data Type: Original Analyst: _____ Replicate Data: K1413380-004DISS Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak Peak # ug/L ug/L Signal Area Height
1 2.236 2.236 0.108 0.416 0.111
2 2.232 2.232 0.108 0.416 0.110
3 2.247 2.247 0.109 0.394 0.111
Mean: 2.238 2.238 0.108 Height Area Height Stored 0.111 12:51:15 Yes Yes 12:51:49 12:52:23 SD: 0.0076 0.0076 0.000 %RSD: 0.3383 0.3383 0.34 0.0076 0.0004 Autosampler Location: 81 Sequence No.: 98 Date Collected: 12/4/2014 12:53:11 PM Sample ID: K1413380-005DISS Data Type: Original Analyst: ______ Replicate Data: K1413380-005DISS Bkgnd Bkgnd Time Repl SampleConc StndConc BlnkCorr Peak Peak # ug/L ug/L Signal Area Height
1 2.505 2.505 0.121 0.459 0.124
2 2.721 2.721 0.132 0.475 0.134
3 2.565 2.565 0.124 0.463 0.127
Mean: 2.597 2.597 0.126 Stored Height Area Height 12:53:27 Yes 12:54:00 12:54:34 SD: 0.1112 0.1112 0.0054 %RSD: 4.280 4.280 4.28 Autosampler Location: 82 Sequence No.: 99 Date Collected: 12/4/2014 12:55:22 PM Sample ID: K1413380-006DISS Data Type: Original Analyst: ______ Replicate Data: K1413380-006DISS Peak Bkgnd Bkgnd Time Height Area Height Repl SampleConc StndConc BlnkCorr Peak Peak # ug/L ug/L Signal Area Height
1 -0.0008 -0.0008 -0.000 -0.037 0.002
2 0.0333 0.0333 0.002 0.009 0.004
3 0.0235 0.0235 0.001 0.008 0.003
Mean: 0.0187 0.0187 0.001
SD: 0.0175 0.0175 0.0008
%RSD: 93.80 93.80 93.80 Stored -0.037 0.002 12:55:38 12:56:12 Yes 12:56:46 Autosampler Location: 83 Sequence No.: 100 Date Collected: 12/4/2014 12:57:34 PM Sample ID: K1413380-007DISS Data Type: Original Analyst: Replicate Data: K1413380-007DISS
 Replicate Data:
 KL413380-007/DISS

 Repl
 SampleConc
 StndConc
 BlnkCorr
 Peak
 Peak
 Bkgnd
 Bkgnd

 #
 ug/L
 Signal
 Area
 Height
 Area
 Height

 1
 1.815
 1.815
 0.088
 0.337
 0.090
 0.090

 2
 1.819
 1.819
 0.088
 0.335
 0.090
 0.090

 3
 1.790
 1.790
 0.087
 0.323
 0.089
 0.089

 Mean:
 1.808
 1.808
 0.088
 0.088
 0.089
 0.0008

 %RSD:
 0.8860
 0.8860
 0.89
 0.89
 0.89
 0.89
 Bkgnd Bkgnd Time Stored 12:57:51 Yes 12:58:24 12:58:59 Yes Yes

_______ Autosampler Location: 84 Sequence No.: 101 Date Collected: 12/4/2014 12:59:47 PM Sample ID: K1412945-001DISS Data Type: Original Analyst: Replicate Data: K1412945-001DISS
 Repl
 SampleConc
 StndConc
 BlnkCorr
 Peak
 Peak
 Bkgnd
 Bkgnd
 Time

 #
 ug/L
 signal
 Area
 Height
 Area
 Height

 1
 0.0367
 0.0367
 0.002
 0.012
 0.004
 13:00

 2
 0.0265
 0.0265
 0.001
 0.001
 0.003
 13:00

 3
 0.0114
 0.0114
 0.001
 0.001
 0.003
 13:01
 Peak Time Stored 13:00:04 13:00:37 Yes 13:01:11 Mean: 0.0249 0.0249 0.001 0.0127 0.0127 0.0006 51.14 51.14 51.14 SD: %RSD: 51.14 51.14 Autosampler Location: 67 Sequence No.: 102 Date Collected: 12/4/2014 1:02:00 PM Sample ID: K1413380-003 Data Type: Original Analyst: Replicate Data: K1413380-003 Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time
ug/L ug/L Signal Area Height Area Height
1 0.4725 0.4725 0.023 0.089 0.025 13:02:1 13:02:16 Yes 13:02.1 13:02:50 0.3830 0.019 0.016 0.021 0.4540 0.022 0.045 0.024 Yes 2 0.3830 0.4540 3 Mean: 0.4365 0.4365 0.021 SD: 0.0473 0.0473 0.0023 %RSD: 10.83 10.83 10.83 0.0023 10.83 User canceled analysis. Analysis Begun Technique: AA FIAS-Flame Logged In Analyst: ALKLS.ALKLSXP315 Spectrometer Model: AAnalyst 200, S/N 200S5061701 Autosampler Model: AS-90 Sample Information File: C:\data-AA\ACQMET10\Sample Information\120414-As1.sif Batch ID: 120414-As1 Results Data Set: 120414-As1 Results Library: C:\data-AA\ACQMET10\Results\Results Se 2013.mdb Autosampler Location: 85 Sequence No.: 103 Date Collected: 12/4/2014 1:04:07 PM Sample ID: K1412945-001DISS Data Type: Original Analyst: ______ Replicate Data: K1412945-001DISS Repl SampleConc StndConc BlnkCorr Peak Peak Peak Bkgnd Bkgnd Time Height Area Height Peak
 ug/L
 ug/L
 Signal
 Area
 Height

 0.1638
 0.1638
 0.008
 0.009
 0.010
 Stored # 13:04:23 0.1749 0.008 -0.008 0.011 13:04:57 Yes 0.1749 2 0.2071 0.010 0.037 0.012 13:05:31 0.2071 3 0.1819 0.009 Mean: 0.1819 0.0225 0.0225 0.0011 12.36 12.36 12.36 12.36 12.36 %RSD: 12.36 _______

Autosampler Location: 5 Sequence No.: 104 Date Collected: 12/4/2014 1:06:20 PM

Sample ID: CCV

Data Type: Original Analyst:

Replicate Data: CCV Repl SampleConc StndConc BlnkCorr Peak Peak Bkgnd Bkgnd Time Peak Method: As Hydride Page 27 Date: 12/4/2014 1:11:23 PM

# 1 2	ug/L 7.953 7.270	ug/L 7.953 7.270	Signal 0.385 0.352	Area 1.477 0.899	Height 0.388 0.355	Area	Height	13:06:38 13:07:12	Stored Yes Yes
Cha	inging BOC								
3	7.963	7.963	0.386	1.389	0.388			13:07:46	Yes
Mean:	7.729	7.729	0.375						
SD:	0.3971	0.3971	0.0192						
%RSD:	5.138	5.138	5.14						
Changing BOC									
QC value within limits for As 193.70 Recovery = 103.05%									

All analyte(s) passed QC.

Sequence No.: 105

Autosampler Location: 1

Sample ID: CCB

Date Collected: 12/4/2014 1:08:37 PM

Analyst:

Data Type: Original

Peak
Stored
Yes
Yes
Yes

QC value within limits for As 193.70 Recovery = Not calculated All analyte(s) passed QC.



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

TestAmerica Job ID: 490-69445-1 Client Project/Site: Rio Tinto

For:

ARCADIS U.S., Inc. 8725 Rosehill Suite 350 Lenexa, Kansas 66215

Attn: Alex Walter

Authorized for release by: 1/14/2015 12:45:37 PM

Heather Wagner, Project Manager I (615)301-5763

heather.wagner@testamericainc.com

·····LINKS ·······

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-69445-1

-				
Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-69445-1	GWM-02S(20141222)HS FF	Water	12/22/14 13:30	12/24/14 09:00
490-69445-2	GWM-02S(20141222)HS	Water	12/22/14 13:30	12/24/14 09:00
490-69445-3	GWM-02S(20141223)LF FF	Water	12/23/14 11:20	12/24/14 09:00
490-69445-4	GWM-02S(20141223)LF	Water	12/23/14 11:20	12/24/14 09:00

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Case Narrative

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-69445-1

Job ID: 490-69445-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-69445-1

Comments

No additional comments.

Receipt

The samples were received on 12/24/2014 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.3° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Definitions/Glossary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-69445-1

Glossary

TEQ

Toxicity Equivalent Quotient (Dioxin)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

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Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 490-69445-1

Project/Site: Rio Tinto

Client Sample ID: GWM-02S(20141222)HS FF Lab Sample ID: 490-69445-1

Date Collected: 12/22/14 13:30 Matrix: Water

Date Received: 12/24/14 09:00

Method: 6010C - Metals (ICP) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20.4		0.100	0.0720	mg/L		01/02/15 11:58	01/06/15 16:28	10

-5

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Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 490-69445-1

Project/Site: Rio Tinto

Client Sample ID: GWM-02S(20141222)HS Lab Sample ID: 490-69445-2

Date Collected: 12/22/14 13:30 Matrix: Water

Date Received: 12/24/14 09:00

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	25.5		0.100	0.0720	mg/L		01/07/15 07:46	01/12/15 22:44	10

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Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 490-69445-1

Project/Site: Rio Tinto

Client Sample ID: GWM-02S(20141223)LF FF Lab Sample ID: 490-69445-3

Date Collected: 12/23/14 11:20 Matrix: Water

Date Received: 12/24/14 09:00

Method: 6010C - Metals (ICP) - Dissolved										
Analyte	Result	Qualifier	RL	MDL	Unit	I	D	Prepared	Analyzed	Dil Fac
Arsenic	49.9		0.200	0.144	mg/L			01/02/15 11:58	01/06/15 16:33	20

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Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 490-69445-1

Project/Site: Rio Tinto

Client Sample ID: GWM-02S(20141223)LF Lab Sample ID: 490-69445-4

Date Collected: 12/23/14 11:20 Matrix: Water

Date Received: 12/24/14 09:00

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	43.2		0.100	0.0720	mg/L		01/07/15 07:46	01/12/15 22:48	10

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Client: ARCADIS U.S., Inc. TestAmerica Job ID: 490-69445-1 Project/Site: Rio Tinto

Method: 6010C - Metals (ICP)

Matrix: Water

Analyte

Arsenic

Analysis Batch: 218215

Prep Type: Total Recoverable Prep Batch: 217989

01/04/15 23:58 TestAmerica Nashville

Analyzed

Prepared

01/02/15 11:58

Client Sample ID: Method Blan								96/1-A	Lab Sample ID: MB 490-2186
Prep Type: Total/N									Matrix: Water
Prep Batch: 21869									Analysis Batch: 218979
						MB			
DL Unit D Prepared Analyzed Dil Fa	D			RL		Qualifier			Analyte
720 mg/L 01/07/15 07:46 01/07/15 23:56		20 mg/L	.0072	0.0100 0.0	(.0100	<0.	Arsenic -
Client Sample ID: Lab Control Sampl	C							696/2-A	Lab Sample ID: LCS 490-2180
Prep Type: Total/N									Matrix: Water
Prep Batch: 21869									Analysis Batch: 218979
LCS %Rec.		cs	S LC	LCS	Spike				
Qualifier Unit D %Rec Limits	Unit	ualifier	lt Qı	Result	Added				Analyte
mg/L 107 80 - 120	mg/L	i	0 _	0.05350	0.0500				Arsenic
Client Sample ID: Lab Control Sampl	C							696/2-A	- Lab Sample ID: LCS 490-2180
Prep Type: Total/N									Matrix: Water
Prep Batch: 21869									Analysis Batch: 219983
•		cs	S LC	LCS	Spike				,
Qualifier Unit D %Rec Limits	Unit	ualifier	lt Qı	Result	Added				Analyte
mg/L 97 80 - 120	mg/L		0	0.04870	0.0500				Arsenic
Client Sample ID: Lab Control Sample Du	Client							8696/3-A	Lab Sample ID: LCSD 490-21
Prep Type: Total/N	Olicin							0030/0-A	Matrix: Water
Prep Batch: 21869									Analysis Batch: 218979
•		CSD	D LC	LCSD	Spike				Analysis Batch. 210010
Qualifier Unit D %Rec Limits RPD Lim	Unit				Added				Analyte
mg/L 101 80 - 120 6 2	mg/L			0.05060	0.0500				Arsenic
Client Sample ID: Lab Control Sample Du	Client							8696/3-A	Lab Sample ID: LCSD 490-21
Prep Type: Total/N									Matrix: Water
Prep Batch: 21869									Analysis Batch: 219983
· · · · · · · · · · · · · · · · · · ·		CSD	D LC	LCSD	Spike				7 , 0.10 1.0000
Qualifier Unit D %Rec Limits RPD Lim	Unit	ualifier	lt Qu	Result	Added				Analyte
mg/L 97 80 - 120 0 2	mg/L	i	0	0.04870	0.0500				Arsenic
Client Sample ID: Matrix Spik								1-B MS	- Lab Sample ID: 490-69558-G-
Prep Type: Total/N									Matrix: Water
Prep Batch: 21869									Analysis Batch: 218979
•		S	S MS	MS	Spike	ple	Sam	Sample	, , , , , , , , , , , , , , , , , , , ,
Qualifier Unit D %Rec Limits	Unit	ualifier	lt Qu	Result	Added	lifier	Qua	Result	Analyte
mg/L 104 75 - 125	mg/L	1	0 —	0.05190	0.0500			<0.0100	Arsenic
Client Sample ID: Matrix Spike Duplicat	Clie							1-C MSD	_ Lab Sample ID: 490-69558-G-
	2.10								Matrix: Water
Prep Type: Total/N.									Analysis Batch: 218979
Prep Type: Total/N Prep Batch: 21869		SD	D MS	MSD	Spike	ple	Sam	Sample	Analysis Batch: 218979
Prep Type: Total/N Prep Batch: 21869	Unit				Spike Added	-		Sample Result	Analysis Batch: 218979 Analyte

0.0100

MDL Unit

0.00720 mg/L

MB MB

<0.0100

Result Qualifier

QC Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-69445-1

Lab Sample ID: LCS 490-217989/2-A			Client Sample ID: Lab Control Sample
Matrix: Water			Prep Type: Total Recoverable
Analysis Batch: 218215			Prep Batch: 217989
	Snika	LCS LCS	%Rec

Analyte Added Limits Result Qualifier Unit %Rec Arsenic 0.100 0.1040 mg/L 104 80 - 120

Lab Sample ID: 490-69041-A-1-B MS Client Sample ID: Matrix Spike **Matrix: Water Prep Type: Dissolved Analysis Batch: 218215** Prep Batch: 217989 Sample Sample Spike MS MS Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Arsenic <0.0100 0.100 0.1083 mg/L 108 75 - 125

Lab Sample ID: 490-69041-A-1-C MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Water Prep Type: Dissolved** Analysis Batch: 218215 **Prep Batch: 217989** RPD Sample Sample Spike MSD MSD %Rec. Analyte Result Qualifier Added Result Qualifier Limits Limit Unit %Rec RPD Arsenic <0.0100 0.100 0.1089 mg/L 109 75 - 125

QC Association Summary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-69445-1

Metals

Prep Batch: 217989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
490-69041-A-1-B MS	Matrix Spike	Dissolved	Water	3005A	_
490-69041-A-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	
490-69445-1	GWM-02S(20141222)HS FF	Dissolved	Water	3005A	
490-69445-3	GWM-02S(20141223)LF FF	Dissolved	Water	3005A	
LCS 490-217989/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 490-217989/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 218215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-69041-A-1-B MS	Matrix Spike	Dissolved	Water	6010C	217989
490-69041-A-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	6010C	217989
LCS 490-217989/2-A	Lab Control Sample	Total Recoverable	Water	6010C	217989
MB 490-217989/1-A	Method Blank	Total Recoverable	Water	6010C	217989

Prep Batch: 218696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-69445-2	GWM-02S(20141222)HS	Total/NA	Water	3010A	
490-69445-4	GWM-02S(20141223)LF	Total/NA	Water	3010A	
490-69558-G-1-B MS	Matrix Spike	Total/NA	Water	3010A	
490-69558-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
LCS 490-218696/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 490-218696/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 490-218696/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 218721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-69445-1	GWM-02S(20141222)HS FF	Dissolved	Water	6010C	217989
490-69445-3	GWM-02S(20141223)LF FF	Dissolved	Water	6010C	217989

Analysis Batch: 218979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-69558-G-1-B MS	Matrix Spike	Total/NA	Water	6010C	218696
490-69558-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010C	218696
LCS 490-218696/2-A	Lab Control Sample	Total/NA	Water	6010C	218696
LCSD 490-218696/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	218696
MB 490-218696/1-A	Method Blank	Total/NA	Water	6010C	218696

Analysis Batch: 219983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-69445-2	GWM-02S(20141222)HS	Total/NA	Water	6010C	218696
490-69445-4	GWM-02S(20141223)LF	Total/NA	Water	6010C	218696
LCS 490-218696/2-A	Lab Control Sample	Total/NA	Water	6010C	218696
LCSD 490-218696/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	218696

TestAmerica Nashville

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Lab Sample ID: 490-69445-1

Matrix: Water

Matrix: Water

Matrix: Water

Client Sample ID: GWM-02S(20141222)HS FF Date Collected: 12/22/14 13:30

Date Received: 12/24/14 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	217989	01/02/15 11:58	AJD	TAL NSH
Dissolved	Analysis	6010C		10	50 mL	50 mL	218721	01/06/15 16:28	ADN	TAL NSH

Client Sample ID: GWM-02S(20141222)HS Lab Sample ID: 490-69445-2

Date Collected: 12/22/14 13:30

Date Received: 12/24/14 09:00

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	218696	01/07/15 07:46	AJD	TAL NSH
Total/NA	Analysis	6010C		10	50 mL	50 mL	219983	01/12/15 22:44	CME	TAL NSH

Client Sample ID: GWM-02S(20141223)LF FF Lab Sample ID: 490-69445-3

Date Collected: 12/23/14 11:20

Date Received: 12/24/14 09:00

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	217989	01/02/15 11:58	AJD	TAL NSH
Dissolved	Analysis	6010C		20	50 mL	50 mL	218721	01/06/15 16:33	ADN	TAL NSH

Client Sample ID: GWM-02S(20141223)LF

Date Collected: 12/23/14 11:20

Lab Sample ID: 490-69445-4

Matrix: Water

Date Collected: 12/23/14 11:20 Date Received: 12/24/14 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	218696	01/07/15 07:46	AJD	TAL NSH
Total/NA	Analysis	6010C		10	50 ml	50 ml	210083	01/12/15 22:48	CME	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Nashville

Method Summary

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

TestAmerica Job ID: 490-69445-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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TestAmerica Job ID: 490-69445-1

Client: ARCADIS U.S., Inc. Project/Site: Rio Tinto

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-15
Arizona	State Program	9	AZ0473	05-05-15
Arkansas DEQ	State Program	6	88-0737	04-25-15
California	NELAP	9	1168CA	10-31-14 *
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Ilinois	NELAP	5	200010	12-09-15
lowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	03-31-15 *
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-15
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-15
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-15
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-15
North Carolina (WW/SW)	State Program	4	387	12-31-15
North Dakota	State Program	8	R-146	06-30-15
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-29-15
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-14 *
South Carolina	State Program	4	84009 (001)	02-28-15
South Carolina (DW)	State Program	4	84009 (002)	02-23-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-15
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15

TestAmerica Nashville

1/14/2015

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 $^{^{\}star}$ Certification renewal pending - certification considered valid.

	490-69445 Chain of Custody
Cooler Received/Opened On 12/24/2014 @ 0900	,
1. Tracking # 279 (last 4 digits, FedEx)	
Courier: FedEx IR Gun ID 96210146	
2. Temperature of rep. sample or temp blank when opened: 0.3 Degrees Cels	sius
3. If Item #2 temperature is 0° C or less, was the representative sample or temp bla	nk frozen? YES NO
4. Were custody seals on outside of cooler?	EsNONA
If yes, how many and where:	Erry)
5. Were the seals intact, signed, and dated correctly?	YESNONA
6. Were custody papers inside cooler?	YESNONA
certify that I opened the cooler and answered questions 1-6 (intial)	On
7. Were custody seals on containers: YES NO and In	tact YESNONA
Were these signed and dated correctly?	YESNONA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam In	sert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact	t) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)?	YESNONA
11. Were all container labels complete (#, date, signed, pres., etc)?	YES)NONA
12. Did all container labels and tags agree with custody papers?	YESNONA
13a. Were VOA vials received?	YESNONA
b. Was there any observable headspace present in any VOA vial?	YESNONA
14. Was there a Trip Blank in this cooler? YESNO(NA) If multiple coole	rs, sequence #
certify that I unloaded the cooler and answered questions 7-14 (intial)	
15a. On pres'd bottles, did pH test strips suggest preservation reached the correc	t pH level? YESNO.NA
b. Did the bottle labels indicate that the correct preservatives were used	YESNONA
16. Was residual chlorine present?	YESNONA
I certify that I checked for chlorine and pH as per SOP and answered questions 15-	-16 (intial)
17. Were custody papers properly filled out (ink, signed, etc)?	YESNONA
18. Did you sign the custody papers in the appropriate place?	YESNONA
19. Were correct containers used for the analysis requested?	YES. NONA
20. Was sufficient amount of sample sent in each container?	YESNONA
I certify that I entered this project into LIMS and answered questions 17-20 (intial)	Ly

I certify that I attached a label with the unique LIMS number to each container (intial)

21. Were there Non-Conformance issues at login? YES./.NO)Was a PIPE generated? YES./.NO...

TestAmerica Nashville

2960 Foster Creighton Drive Nashville TN 37204

Custody Seals Intact:

Δ Yes Δ No

Custody Seal No .:

Chain of Custody Record



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Phone (615) 726-0177 Fax (615) 726-3404 Carrier Tracking No(s): COC No: Wagner, Heather 490-32387-11102.1 Client Information Client Contact: Phone: 913-608-2808 Alex Walter heather.wagner@testamericainc.com Page 1 of 1 Company Job #: **Analysis Requested** ARCADIS U.S., Inc. Due Date Requested: Preservation Codes: 8725 Rosehill Suite 350 A-HCL M - Hexane TAT Requested (days): B - NaOH N - None Lenexa O - AsNaO2 C - Zn Acetate Std. D - Nitric Acid P - Na2O4S State, Zip: E - NaHSO4 Q - Na2SO3 KS, 66215 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 913-492-0900(Tel) 913-492-0902(Fax) Loc: 490 MH001026.00002.00002 H - Ascorbic Acid T - TSP Dodecahydrate WO #: I-Ice U - Acetone 69445 J - DI Water V-MCAA alex.walter@arcadis-us.com K-EDTA W - ph 4-5 Project Name: Project #: Z - other (specify) Other: L-EDA Field Filtered Sample () Rerform MS/MSD (Yes Rio Tinto 49004903 Site: SSOW#: 4 6010C - Arsenic Total Number Matrix Sample (w=water, Type S=solid, Sample (C=comp, O=waste/oil, Sample Identification Sample Date Time G=grab) BT=Tissue, A=Alr Special Instructions/Note: Preservation Code: D GWM-025 (2014 1222) HS FF 12/22/14 1330 G X Water 01 GWH-023(20141272) 145 2 ù 1330 6 X Page Water GWM-028 (20141273) LF PF 12/23/14 C X 3 1120 Water GWM-925 (2014/223) LF X 1120 Water Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Month Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
Deliverable Requested: I, II, III, IV, Other (specify) Archive For Months Special Instructions/QC Requirements: Empty Kit Relinquished by: Method of Shipment Date: Time: Received by: Company ARCHO13 1700 Relinguished by: Company Received by: Relinquished by: Date/Time: Company Received by:

Cooler Temperature(s) °C and Other Remarks: 0, 3

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc. Job Number: 490-69445-1

Login Number: 69445 List Source: TestAmerica Nashville

List Number: 1

Creator: Gambill, Shane

Creator: Gambiii, Snane		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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APPENDIX E

DISPOSAL MANIFEST AND CERTIFICATE OF DISPOSAL

NO DISPOSAL CONDUCTED THIS MONITORING ROUND